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**National Highway  
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Washington, D.C. 20590

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ON-SITE AIR BAG INVESTIGATION

CASE NO. - 95-10

FLEET - PRIVATE VEHICLE

LOCATION - TEXAS

ACCIDENT DATE - 1995

Submitted By:

Senior Staff Associate

and

Associate Scientist

1995

Revised Submissions:

1995

and

1996

Contract Number: DTNH22-94-D-17058

Prepared for:

U.S. Department of Transportation  
National Highway Traffic Safety Administration  
National Center for Statistics and Analysis  
Washington, D.C. 20590

## **DISCLAIMERS**

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The crash investigation process is an inexact science which requires that physical evidence such as skid marks, vehicular damage measurements, and occupant contact points be coupled with the investigator's expert knowledge and experience of vehicle dynamics and occupant kinematics in order to determine the pre-crash, crash, and post-crash movements of involved vehicles and occupants.

Because each crash is a unique sequence of events, generalized conclusions cannot be made concerning the crashworthiness performance of the involved vehicle(s) or their safety systems.

1. Report No. TRC/IU Case No. 95-10		2. Government Accession No.		3. Recipient's Catalog No.	
4. Title and Subtitle On-Site Air Bag Investigation Private Vehicle Location - [REDACTED] Texas				5. Report Date [REDACTED] 1995; [REDACTED] 95; [REDACTED]/96	
				6. Performing Organization Code	
				8. Performing Organization Report No. TRC/IU 95-10, Task 9518	
7. Author(s) [REDACTED]				10. Work Unit No. (TRAIS)	
9. Performing Organization Name and Address Indiana University Transportation Research Center [REDACTED] Indiana [REDACTED]				11. Contract or Grant No. DTNH22-94-D-17058	
				13. Type of Report and Period Covered [REDACTED] 1995	
12. Sponsoring Agency Name and Address U.S. Department of Transportation (NRD-32) National Highway Traffic Safety Administration National Center for Statistics and Analysis Washington, D.C. 20590				14. Sponsoring Agency Code	
15. Supplementary Notes On-site air bag deployment investigation involving a 1994 Pontiac Grand Prix, 4-door sedan, with manual belts and dual front air bags					
16. Abstract <p>This report covers an on-site investigation of an air bag deployment crash that involved a 1994 Pontiac Grand Prix and a 1990 Ford F150 XLT, 4x2, pickup truck. The Grand Prix was traveling west in the center westbound lane of a seven-lane (three westbound through lanes, three eastbound through lanes, and one, bidirectional, center left-hand turn lane), undivided state roadway. The F150 pickup truck was turning left from the southbound lane of a two-lane, undivided, commercial driveway. The front of the Grand Prix (case vehicle) impacted the left front of the F150 pickup (vehicle #2) causing the case vehicle's driver side and right-front passenger side supplemental restraints (air bags) to deploy. Subsequently, the right rear corner of the case vehicle sideslapped the left rear corner of vehicle #2 which had rotated approximately 90 degrees clockwise after its initial impact. The case vehicle continued westward after the sideslap impact, rotated approximately 30 degrees clockwise before departing the roadway—approximately 55 meters (180 feet) west of the point of initial impact, went down a steep embankment, and came to rest in the mud halfway down the embankment heading north. Vehicle #2 continued west-northwest approximately 18 meters (59 feet) before coming to rest straddling the middle and outside westbound lanes heading west-northwest. The case vehicle's driver (43 year-old male) was also restrained by the available, active, three-point lap and shoulder belt and sustained, according to his interview, minor injuries which included: an injury to his left fifth finger, a sprained right ankle, a lacerated left hand, an abraded right knee, and multiple contusions. The right front passenger in the case vehicle (34 year-old female) was also restrained by the available, active, three-point lap and shoulder belt and sustained, according to her interview and medical records, serious injuries which included: a fracture through the pedicle of C<sub>2</sub>, a subluxation of C<sub>2</sub> on C<sub>3</sub>, three left rib fractures, a sprained right ankle, and multiple soft tissue injuries. The driver (73 year-old male), right front passenger (75 year-old male), and center rear passenger (66 year-old female) of vehicle #2 were all restrained and listed on the Police Accident Report as sustaining "B" (nonincapacitating-evident) injuries as a result of this crash.</p>					
17. Key Words Motor Vehicle Traffic Accident Air Bag Deployment Injury Severity			18. Distribution Statement General Public		
19. Security Classif. (of this report) Unclassified		20. Security Classif. (of this page) Unclassified		21. No. of Pages 161	22. Price \$9,000



## TABLE OF CONTENTS

	<u>Page No.</u>
SUMMARY . . . . .	1
CRASH SCHEMATIC . . . . .	2
ACCIDENT DATA . . . . .	4
AMBIENT CONDITIONS . . . . .	4
ROADWAY . . . . .	4
TRAFFIC CONTROLS . . . . .	5
VEHICLES . . . . .	5
VEHICLE DAMAGE . . . . .	6
EXTERIOR . . . . .	6
Deployment Impact . . . . .	6
Nondeployment Impact . . . . .	7
INTERIOR . . . . .	8
REPAIR . . . . .	8
VEHICLE VELOCITY ESTIMATES . . . . .	8
COLLISION SEQUENCE . . . . .	9
PRE-CRASH . . . . .	9
CRASH . . . . .	9
POST-CRASH . . . . .	9
Occupants . . . . .	9
Police . . . . .	10
Rescue . . . . .	10
Removal . . . . .	10
HUMAN FACTORS/OCCUPANT DATA . . . . .	10
DRIVERS . . . . .	10
RIGHT FRONT PASSENGERS . . . . .	11
CENTER REAR PASSENGER . . . . .	12
CASE VEHICLE DRIVER INJURIES . . . . .	12
CASE VEHICLE RIGHT FRONT PASSENGER INJURIES . . . . .	13
VEHICLE #2 DRIVER INJURIES . . . . .	14
VEHICLE #2 RIGHT FRONT PASSENGER INJURIES . . . . .	14
VEHICLE #2 MIDDLE REAR PASSENGER INJURIES . . . . .	15
DRIVER KINEMATICS . . . . .	15
PASSENGER KINEMATICS . . . . .	16
AIR BAG SYSTEM . . . . .	17
DISCUSSION . . . . .	17
ACCIDENT COLLISION MEASUREMENT TABLE . . . . .	18
Appendix A: Police Accident Report . . . . .	20

## TABLE OF CONTENTS (CONTINUED)

	<u>Page No.</u>
Appendix B: Reconstruction Program Results . . . . .	22
CRASHPC (DAMAGE ONLY ALGORITHM) . . . . .	23
CRASHPC (BARRIER OPTION--CASE VEHICLE AND VEHICLE #2) . . . . .	26
EDCRASH (DAMAGE ONLY ALGORITHM) . . . . .	29
TRC VECTOR ANALYSIS ITERATIONS . . . . .	32
Appendix C: NASS CDS Accident Form . . . . .	35
Appendix D: NASS CDS Vehicle Forms: Case Vehicle . . . . .	37
Appendix E: NASS CDS Vehicle Forms: Vehicle #2 . . . . .	57
Appendix F: NASS CDS Interview Form: Case Vehicle Driver and Right Front Passenger . . . . .	67
Appendix G: NASS CDS Interview Form: Vehicle #2 Driver and Pas- sengers--Right Front and Center Rear . . . . .	76
Appendix H: NASS CDS Occupant Assessment Form: Case Vehicle Driver . . . . .	85
Appendix I: NASS CDS Occupant Injury Form: Case Vehicle Driver . . . . .	91
Appendix J: NASS CDS Occupant Assessment Form: Case Vehicle Right Front Passenger . . . . .	97
Appendix K: NASS CDS Occupant Injury Form: Case Vehicle Right Front Passenger . . . . .	103
Body Diagrams and Medical Records from Initial Medical Facility . . . . .	105
Body Diagrams and Medical Records from Neurologist in Charge of This Occupant at Medical Facility to which this Occu- pant was Transferred . . . . .	113
Appendix L: NASS CDS Occupant Assessment Form: Vehicle #2 Driver . . . . .	120
Appendix M: NASS CDS Occupant Injury Form: Vehicle #2 Driver . . . . .	126
Appendix N: NASS CDS Occupant Assessment Form: Vehicle #2 Right Front Passenger . . . . .	133
Appendix O: NASS CDS Occupant Injury Form: Vehicle #2 Right Front Passenger . . . . .	139
Appendix P: NASS CDS Occupant Assessment Form: Vehicle #2 Center Rear Passenger . . . . .	145
Appendix Q: NASS CDS Occupant Injury Form: Vehicle #2 Right Rear Passenger . . . . .	151
Appendix R: Excerpts from Medical Textbooks . . . . .	159

## TABLE OF CONTENTS

### Page No.

SUMMARY . . . . .	1
CRASH SCHEMATIC . . . . .	2
ACCIDENT DATA . . . . .	4
AMBIENT CONDITIONS . . . . .	4
ROADWAY . . . . .	4
TRAFFIC CONTROLS . . . . .	5
VEHICLES . . . . .	5
VEHICLE DAMAGE . . . . .	6
EXTERIOR . . . . .	6
Deployment Impact . . . . .	6
Nondeployment Impact . . . . .	7
INTERIOR . . . . .	8
REPAIR . . . . .	8
VEHICLE VELOCITY ESTIMATES . . . . .	8
COLLISION SEQUENCE . . . . .	9
PRE-CRASH . . . . .	9
CRASH . . . . .	9
POST-CRASH . . . . .	9
Occupants . . . . .	9
Police . . . . .	10
Rescue . . . . .	10
Removal . . . . .	10
HUMAN FACTORS/OCCUPANT DATA . . . . .	10
DRIVERS . . . . .	10
RIGHT FRONT PASSENGERS . . . . .	11
CENTER REAR PASSENGER . . . . .	12
CASE VEHICLE DRIVER INJURIES . . . . .	12
CASE VEHICLE RIGHT FRONT PASSENGER INJURIES . . . . .	13
VEHICLE #2 DRIVER INJURIES . . . . .	14
VEHICLE #2 RIGHT FRONT PASSENGER INJURIES . . . . .	14
VEHICLE #2 MIDDLE REAR PASSENGER INJURIES . . . . .	15
DRIVER KINEMATICS . . . . .	15
PASSENGER KINEMATICS . . . . .	16
AIR BAG SYSTEM . . . . .	17
DISCUSSION . . . . .	17
ACCIDENT COLLISION MEASUREMENT TABLE . . . . .	18
Appendix A: Police Accident Report . . . . .	20

# TABLE OF CONTENTS (CONTINUED)

	<u>Page No.</u>
Appendix B: Reconstruction Program Results . . . . .	22
CRASHPC (DAMAGE ONLY ALGORITHM) . . . . .	23
CRASHPC (BARRIER OPTION--CASE VEHICLE AND VEHICLE #2) . . . . .	26
EDCRASH (DAMAGE ONLY ALGORITHM) . . . . .	29
TRC VECTOR ANALYSIS ITERATIONS . . . . .	32
Appendix C: NASS CDS Accident Form . . . . .	35
Appendix D: NASS CDS Vehicle Forms: Case Vehicle . . . . .	37
Appendix E: NASS CDS Vehicle Forms: Vehicle #2 . . . . .	57
Appendix F: NASS CDS Interview Form: Case Vehicle Driver and Right Front Passenger . . . . .	67
Appendix G: NASS CDS Interview Form: Vehicle #2 Driver and Pas- sengers--Right Front and Center Rear . . . . .	76
Appendix H: NASS CDS Occupant Assessment Form: Case Vehicle Driver . . . . .	85
Appendix I: NASS CDS Occupant Injury Form: Case Vehicle Driver . . . . .	91
Appendix J: NASS CDS Occupant Assessment Form: Case Vehicle Right Front Passenger . . . . .	97
Appendix K: NASS CDS Occupant Injury Form: Case Vehicle Right Front Passenger . . . . .	103
Body Diagrams and Medical Records from Initial Medical Facility . . . . .	105
Body Diagrams and Medical Records from Neurologist in Charge of This Occupant at Medical Facility to which this Occu- pant was Transferred . . . . .	113
Appendix L: NASS CDS Occupant Assessment Form: Vehicle #2 Driver . . . . .	120
Appendix M: NASS CDS Occupant Injury Form: Vehicle #2 Driver . . . . .	126
Appendix N: NASS CDS Occupant Assessment Form: Vehicle #2 Right Front Passenger . . . . .	133
Appendix O: NASS CDS Occupant Injury Form: Vehicle #2 Right Front Passenger . . . . .	139
Appendix P: NASS CDS Occupant Assessment Form: Vehicle #2 Center Rear Passenger . . . . .	145
Appendix Q: NASS CDS Occupant Injury Form: Vehicle #2 Right Rear Passenger . . . . .	151
Appendix R: Excerpts from Medical Textbooks . . . . .	159

# TRC/IU ON-SITE AIR BAG INVESTIGATION

TRC/IU CASE NO. 95-10

FLEET - PRIVATE VEHICLE  
LOCATION - [REDACTED] TEXAS

## SUMMARY

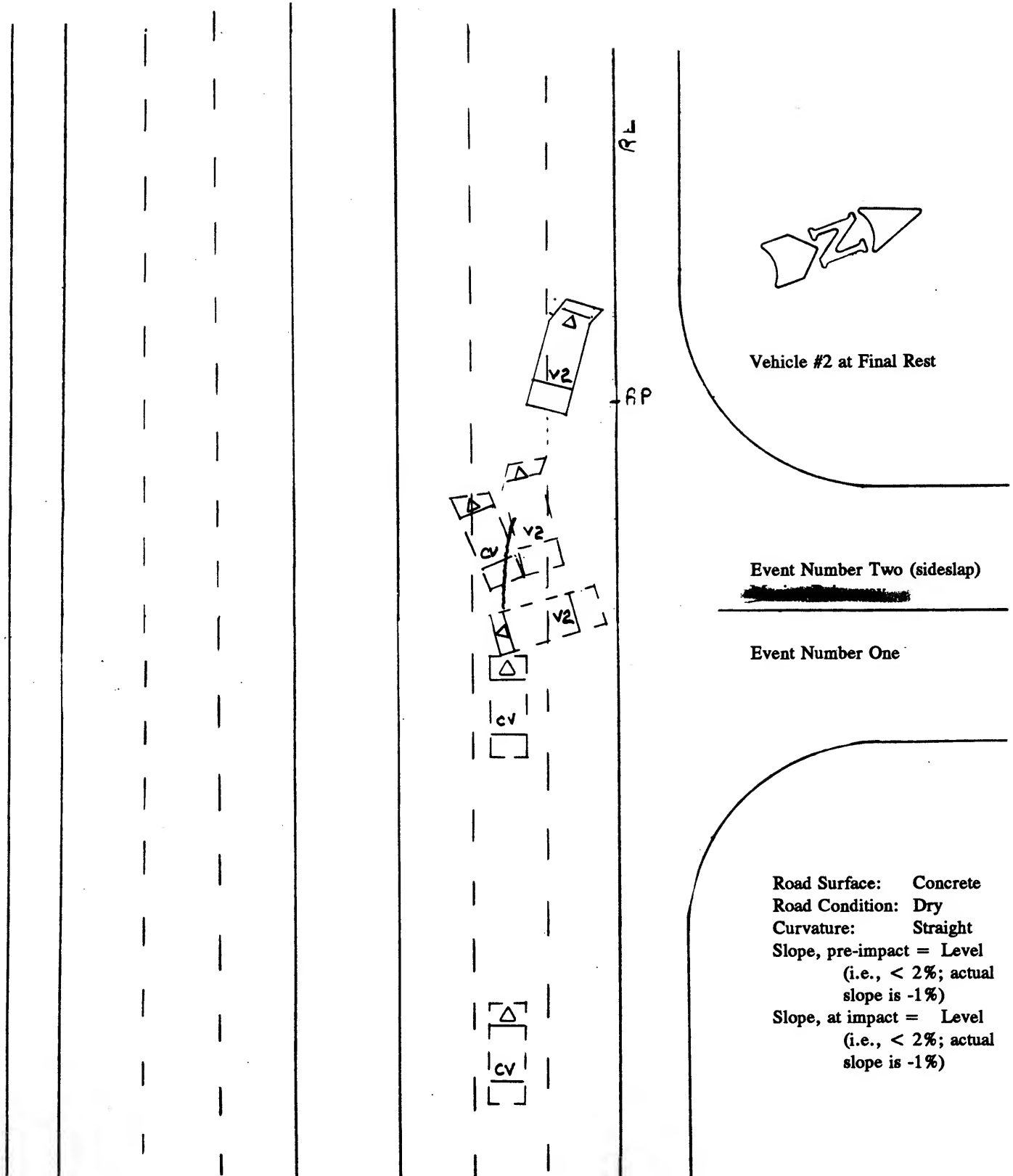
This report concerns a motor vehicle crash involving an air bag equipped 1994 Pontiac Grand Prix and a 1990 Ford F150 XLT, 4x2, pickup truck occurring on [REDACTED] 1995 at 9:10 a.m., near [REDACTED] Texas on a State road. This crash is of special interest because the right front passenger in the case vehicle sustained a severe cervical spine fracture from the deploying right front air bag.

The Grand Prix was traveling west in the center westbound lane of a seven-lane (three westbound through lanes, three eastbound through lanes, and one, bidirectional, center left-hand turn lane), undivided state roadway when it impacted the F150 pickup truck which was turning left from the southbound lane of a two-lane, undivided, commercial driveway. The Grand Prix continued westward after the initial and subsequent sideslap impacts, rotated approximately 30 degrees clockwise before departing the roadway--approximately 55 meters (180 feet) west of the point of initial impact, went down a steep embankment, and came to rest in the mud halfway down the embankment heading north. The F150 pickup was knocked approximately 90 degrees clockwise after the initial impact, sideslapped the Grand Prix, and continued west-northwest approximately 18 meters (59 feet) before coming to rest straddling the middle and outside westbound lanes heading west-northwest.

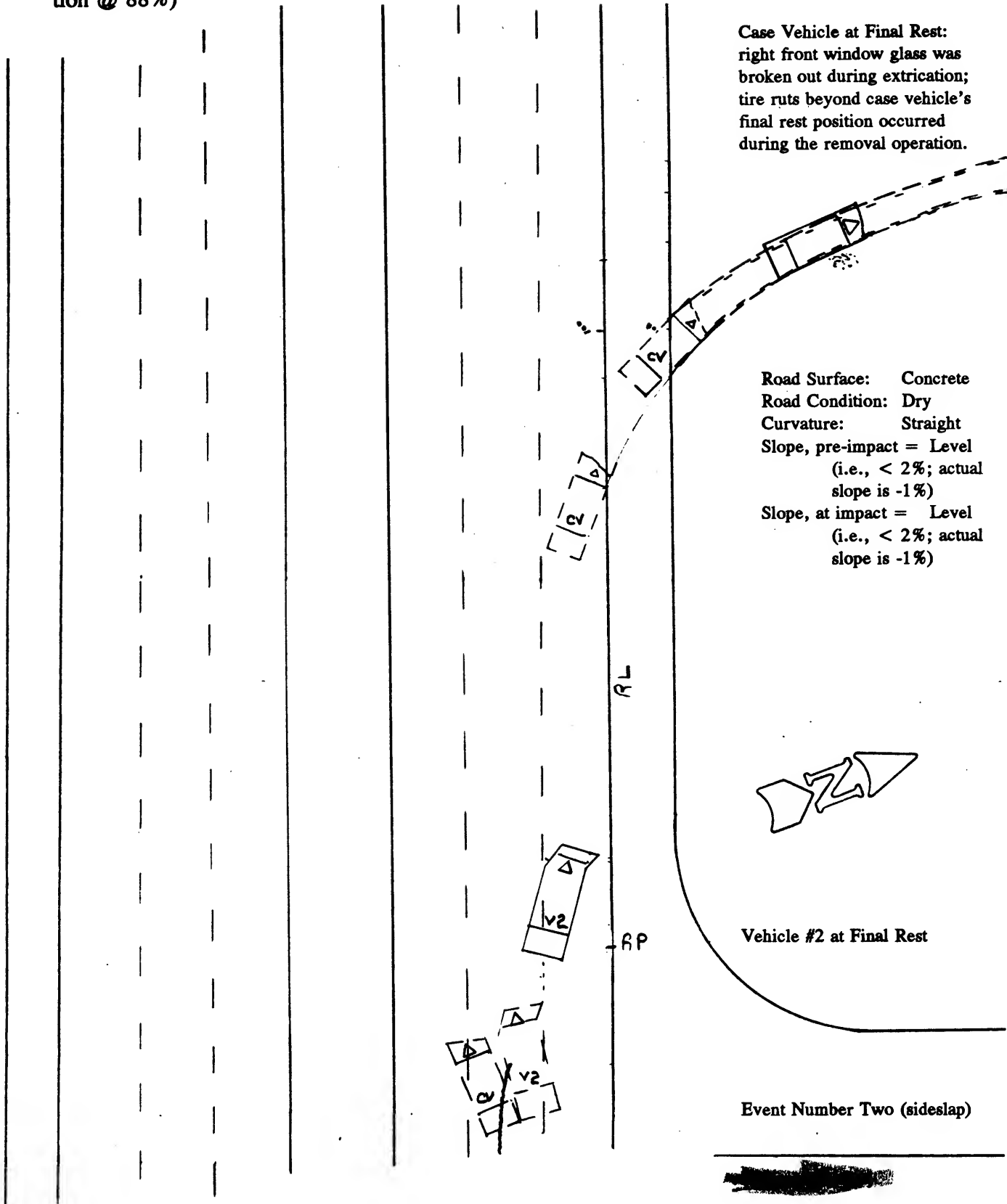
The front of the Grand Prix impacted the left front of the F150 pickup. Subsequently, the right rear corner of the Grand Prix sideslapped the left rear corner of the F150 pickup. CDCs were determined to be: 12-FDEW-3 and 03-RBEW-2 for the Grand Prix and 10-LFEW-5 and 09-LBLW-1 for the F150 pickup. The CRASHPC reconstruction program, damage only algorithm, was used on the impact (highest severity) to the Grand Prix. The Total, Longitudinal, and Lateral Delta Vs are respectively: 36 k.p.h. (23 m.p.h.), -36 k.p.h. (-22 m.p.h.), and -6 k.p.h. (-4 m.p.h.).

The 1994 Pontiac Grand Prix was equipped with both driver and right-front passenger supplemental restraint systems (air bags) which deployed as a result of the frontal impact. The driver of the vehicle (43 year-old male) was also restrained by the available, active, three-point lap and shoulder belt. He sustained, according to his interview, minor injuries which included: an injury to his left fifth finger, a sprained right ankle, a lacerated left hand, an abraded right knee, and multiple contusions. The driver of the Grand Prix was listed on the Police Accident Report as sustaining a "B" (nonincapacitating-evident) injury as a result of this crash. The passenger (34 year-old female) in the Grand Prix was also restrained by the available, active, three-point lap and shoulder belt. She sustained, according to her interview and medical records, serious injuries which included: a fracture through the pedicle of C<sub>2</sub>, a subluxation of C<sub>2</sub> on C<sub>3</sub>, three left rib fractures, a sprained right ankle, and multiple soft tissue injuries. In addition, she was listed on the Police Accident Report as sustaining an "A" (incapacitating) injury. The driver (73 year-old male), right front passenger (75 year-old male), and center rear passenger (66 year-old female) of the Ford F150 XLT were all listed on the Police Accident Report as sustaining "B" (nonincapacitating-evident) injuries as a result of this crash.

Scale: 1 inch = 20 ft  
(prior to reduction @ 88%)



Scale: 1 inch = 20 ft  
(prior to reduction @ 88%)



# TRC/IU ON-SITE AIR BAG INVESTIGATION

TRC/IU CASE NO. 95-10

FLEET - PRIVATE VEHICLE  
LOCATION [REDACTED] TEXAS

## ACCIDENT DATA

Location/Street: State Highway  
City/Township: [REDACTED] County, near [REDACTED], Texas  
Area/Type: Rural, recreational  
Accident Date/Time: [REDACTED] 1995, [REDACTED] p.m.  
Investigating Police Agency: [REDACTED] Department of Public Safety--Highway Patrol  
Accident Type: Car / Pickup - right angle  
Occupant Injury Severity (air bag vehicle): Fracture pedicle of C<sub>2</sub> (AIS-3)

## AMBIENT CONDITIONS<sup>1</sup>

Light Conditions: Dark, but lighted  
Weather Condition: Cloudy<sup>1</sup>  
Precipitation: None  
Road Surface: Wet

## ROADWAY

	<u>Case Vehicle</u>	<u>Vehicle #2</u>
Location:	State highway	Commercial driveway
Number of Travel Lanes:	7-lanes, undivided	2-lanes, undivided
Width:	3.6 meters (11.8 feet)	3.1 meters (10.2 feet)
Surface Type:	Concrete	Concrete

<sup>1</sup> The reported weather condition is this contractor's best estimate. The Police Accident Report indicated that it was precipitating (i.e., raining) at the time of the crash. However, both drivers indicated that it was not raining; the case vehicle's driver indicated that thunderstorms had occurred earlier. Vehicle #2's driver could not recall the weather conditions, while the case vehicle's driver indicated it was clear (i.e., there were no clouds).



## ROADWAY (CONTINUED)

	<u>Case Vehicle</u>	<u>Vehicle #2</u>
Median:	None	None
Shoulders:	3.0 meters (9.8 feet), improved (concrete)	Unimproved (grass)
Vertical alignment:	Level (i.e., 1.0 % negative to west)	Grade (unknown %) positive to south
Horizontal alignment:	Straight	Straight
Estimated Coefficient of Friction:	.60	.75
Traffic Density:	Light	Light

## TRAFFIC CONTROLS

	<u>Case Vehicle</u>	<u>Vehicle #2</u>
Signals:	None	None
Signs:	None in pre-crash	None
Markings:	Solid white edge line on north side, solid yellow center line on south side of bidirectional center lane, dash yellow lane line separating through lanes from center turn lane, and dashed white lane lines separating the three westbound through lanes	Solid white line separating entrance and exit lanes
Speed Limit:	89 k.p.h. (55 m.p.h.)	Unknown, driveway not posted

## VEHICLES

	<u>Case Vehicle</u>	<u>Vehicle #2</u>
Year:	1994	1990
Make:	Pontiac	Ford
Model:	Grand Prix SE	F-150, XLT, Lariat
Body Type:	4-door sedan, 5-passengers	2-door supercab pickup, 4x2

## VEHICLES (CONTINUED)

	<u>Case Vehicle</u>	<u>Vehicle #2</u>
V.I.N.	1G2WJ52M3RF-----	1FTEX15H3LK-----
Color:	Blue	Black
Mileage:	40,692 km (25,285 miles)	152,144 km (94,538 miles)
Engine:	3.1 liters, V6 MFI	5.8 liters, V8 EFI
Transmission:	4-speed automatic	4-speed automatic with overdrive
Steering:	Power-assisted, rack-and-pinion	Power-assisted, recirculating ball
Brakes:	Power-assisted, 4-wheel disc	Power-assisted, front disc, rear drum
Padding:	Steering wheel and hub, sunvisors, dash, "A"-pillars, side door surfaces	Unknown, no interior inspection
Active Restraints:	3-point, manual, lap and shoulder belts in front and rear outboard seating positions; lap belt only at rear center position	3-point, manual, lap and shoulder belts in front outboard seating positions; lap belt only at rear positions
Passive Restraints:	Factory installed driver and right front passenger supplemental restraint systems (air bags)	None
Defects:	None	Unknown
Fleet:	Private vehicle	Private vehicle
Tow status:	Towed due to damage	Towed due to damage

## VEHICLE DAMAGE

EXTERIORDeployment Impact

	<u>Case Vehicle</u>	<u>Vehicle #2</u>
Event number:	First	First
Object Struck:	Vehicle #2	Case vehicle
Damage location		
Damaged Plane:	Front	Left

## VEHICLE DAMAGE (CONTINUED)

EXTERIOR (Continued)Case VehicleVehicle #2Deployment Impact (Continued)

## Vertical Location

On Plane:

Direct Begins:

Length Direct:

Field L:

C<sub>1</sub>:C<sub>2</sub>:C<sub>3</sub>:C<sub>4</sub>:C<sub>5</sub>:C<sub>6</sub>:

D:

Maximum Crush:

Location:

Bumper

At front right bumper  
corner

126 cm ( 49.6 in)

146 cm ( 57.5 in)

2 cm ( 0.8 in)

29 cm ( 11.4 in)

49 cm ( 19.3 in)

55 cm ( 21.7 in)

53 cm ( 20.9 in)

55 cm ( 21.7 in)

+10 cm ( +3.9 in)

55 cm ( 21.7 in)

C<sub>6</sub>

Sill and above

At left front bumper  
corner

101 cm ( 39.8 in)

122 cm ( 48.0 in)

0 cm ( 0.0 in)

11 cm ( 4.3 in)

52 cm ( 20.5 in)

76 cm ( 29.9 in)

74 cm ( 29.1 in)

92 cm ( 36.2 in)

+190 cm (+74.8 in)

92 cm ( 36.2 in)

C<sub>6</sub>

CDC:

12-FDEW-3

10-LFEW-5

Damaged Components:

Bumper, hood, grille,  
radiator, engine, right and  
left fendersLeft front wheel assem-  
bly, hood, grille, bumper,  
engine, left and right  
fendersNondeployment Impact

Event number:

Second

Second

Object Struck:

Vehicle #2

Case vehicle

Damage location

Damaged Plane:

Vertical Location

On Plane:

Direct Begins:

Length Direct:

Field L:

C<sub>1</sub>:C<sub>2</sub>:C<sub>3</sub>:C<sub>4</sub>:C<sub>5</sub>:C<sub>6</sub>:

D:

Maximum Crush:

Right

Below beltline

51 cm ( 20.1 in)  
behind right rear axle

47 cm ( 18.5 in)

74 cm ( 29.1 in)

Not measured

Not measured

Not measured

Not measured

Not measured

Not measured

Not measured

19 cm ( 7.5 in)

Left

Sill

At left rear bumper cor-  
ner

Unknown

Unknown

Unknown

Unknown

Unknown

Unknown

Unknown

Unknown

Unknown

Unknown

## VEHICLE DAMAGE (CONTINUED)

<u>EXTERIOR</u> (Continued)	<u>Case Vehicle</u>	<u>Vehicle #2</u>
<u>Nondeployment Impact</u> (Continued)		
Location:	61 cm ( 24.0 in) behind right rear axle	Unknown
CDC:	03-RBEW-2	09-LBLW-1
Damaged Components:	Right quarter panel	Left rear quarter panel, left taillight, left rear bumper corner
<u>INTERIOR</u>		
Damaged Components:	Left and right front air bag modules, turn signal switch, windshield	No interior inspection
Other Evidence of Occupant Contact:	Glove box door, scuffs	No interior inspection
Manual Restraint System Failures:	None	No interior inspection
Seat Performance Failures:	None	No interior inspection
<u>REPAIR</u>		
Cost Estimate:	Totalled, unknown	Unknown

VEHICLE VELOCITY ESTIMATES<sup>2,3</sup>

<u>Highest Delta "V"</u>	<u>Case Vehicle</u>	<u>Vehicle #2</u>
Reconstruction Program:	CRASH3PC and EDCRASH	CRASH3PC and EDCRASH
Program Algorithm:	Damage only <sup>2</sup>	Damage only <sup>2</sup>
Travel Speed: <sup>3</sup>	89 k.p.h. ( 55 m.p.h.)	24 k.p.h. ( 15 m.p.h.)
Total Delta "V":	36 k.p.h. ( 23 m.p.h.)	29 k.p.h. ( 18 m.p.h.)

<sup>2</sup> Although impact and rest positions were known for both the case vehicle and vehicle #2, the trajectory algorithm could not be used because of the sideslap.

<sup>3</sup> This contractor estimates the travel speeds at impact were most like: 89  $\pm$  8 k.p.h. (55  $\pm$  5 m.p.h.) for the case vehicle and 24  $\pm$  8 k.p.h. (15  $\pm$  5 m.p.h.) for vehicle #2.

## VEHICLE VELOCITY ESTIMATES (CONTINUED)

<u>Highest Delta "V" (Continued)</u>	<u>Case Vehicle</u>	<u>Vehicle #2</u>
Longitudinal Delta "V":	-36 k.p.h. (-22 m.p.h.)	-15 k.p.h. ( -9 m.p.h.)
Lateral Delta "V":	-6 k.p.h. ( -4 m.p.h.)	+25 k.p.h. (+16 m.p.h.)

## COLLISION SEQUENCE

**PRE-CRASH:** According to the driver of the case vehicle and the Police Accident Report, the case vehicle (Grand Prix) was traveling west in the center westbound lane of a seven-lane (three westbound through lanes, three eastbound through lanes, and one, bidirectional, center, left-hand, turn lane), undivided state roadway and was attempting to continue in its direction of travel. According to the driver of Vehicle #2 (F150 pickup truck) and the Police Accident Report, vehicle #2 was traveling in the southbound lane of a two-lane, undivided, commercial driveway and was attempting to turn left. According to the driver of the case vehicle, he did not have time to attempt any pre-crash avoidance maneuvers. The case vehicle continued straight ahead prior to impact. According to the driver of vehicle #2, he also did not have time to attempt any pre-crash avoidance maneuvers. Vehicle #2 continued making its left-hand turn prior to impact. The crash occurred in the tee intersection, center westbound lane, of the seven-lane roadway and the commercial driveway.

**CRASH:** According to the Police Accident Report, the inspection of the case vehicle, and the photographs of vehicle #2, the front of the case vehicle impacted the left front of vehicle #2 causing both the driver and right-front passenger side supplemental restraint systems (air bags) to deploy. Subsequently, the right rear corner of the case vehicle sideslapped the left rear corner of vehicle #2 which had been knocked approximately 90 degrees clockwise after the initial impact. According to the Police Accident Report and the scene inspection, the case vehicle continued westward after the sideslap impact, rotated approximately 30 degrees clockwise before departing the roadway--approximately 55 meters (180 feet) west of the point of initial impact, went down a steep embankment, and came to rest in the mud halfway down the embankment heading north. Vehicle #2 continued west-northwest approximately 18 meters (59 feet) after the sideslap impact before coming to rest straddling the middle and outside westbound lanes heading west-northwest.

**POST-CRASH:**

**Occupants:** The driver of the case vehicle remained inside the vehicle at final rest. He was conscious and was able to exit the case vehicle. The right front passenger also remained inside the vehicle at final rest. She was conscious and was unable because of her neck injury to exit the case vehicle. The driver and right front passenger of the vehicle were both restrained by the available, active, three-point lap and shoulder belt.

## COLLISION SEQUENCE (CONTINUED)

## Post-Crash: (Continued)

**Police:** The investigating police agency was notified of the accident within twenty minutes and arrived on-scene within thirty-four minutes. Traffic control procedures were established and emergency medical, fire, and towing services were called to assist.

**Rescue:** The driver was transported by ambulance to a medical facility<sup>4</sup> where he was treated and released. The right front passenger was transported by ambulance to a medical facility where she was treated and transferred to another facility where she was hospitalized. According to his interview, the driver of the case vehicle sustained minor injuries which included: an injury to his left fifth finger, a sprained right ankle, a lacerated left hand, an abraded right knee, and multiple contusions. According to her interview and medical records, the right front passenger sustained serious injuries which included: a fracture through the pedicle of C<sub>2</sub>, a subluxation of C<sub>2</sub> on C<sub>3</sub>, three left rib fractures, a sprained right ankle, and multiple soft tissue injuries.

**Removal:** Following the police investigation, the case vehicle and vehicle #2 were towed from the scene.

HUMAN FACTORS/OCCUPANT DATA<sup>5</sup>

	<u>Case Vehicle</u>	<u>Vehicle #2</u>
<b><u>DRIVERS:</u></b>	43 year-old male	73 year-old male
<b>Height:</b>	170 cm (67 in)	191 cm (75 in)
<b>Weight:</b>	93 kg (205 lbs)	87 kg (191 lbs)
<b>Occupation:</b>	Teacher	Farmer <sup>5</sup>
<b>Active Restraint System/Usage:</b>	3-point lap and shoulder/Used	3-point lap and shoulder/Used
<b>Usage Source:</b>	Vehicle inspection, Interviewee, and Police Accident Report	Interviewee and Police Accident Report

<sup>4</sup> This contractor believes that the case vehicle driver and his wife were both taken to the same initial medical facility where his wife was treated and transferred to another hospital. The case vehicle driver indicated that he was only treated at the "transferred to" hospital. This contractor believes that at the initial facility the case vehicle driver most likely indicated that he was not injured or refused treatment.

<sup>5</sup> The driver of vehicle #2 considers himself to be a farmer; the Police Accident Report indicated that he was retired. In his interview the driver of vehicle #2 indicated that he was not working prior to the crash; however, during several telephone calls attempting to talk to this driver, the driver's wife indicated that he was unavailable because he was "out-in-the-field" (i.e., farming).

## HUMAN FACTORS/OCCUPANT DATA (CONTINUED)

<b><u>DRIVERS: (Continued)</u></b>	<b><u>Case Vehicle</u></b>	<b><u>Vehicle #2</u></b>
Passive Restraint System/Usage:	Factory installed air bag / air bag deployed	None
Usage Source:	Vehicle inspection, Interviewee, and Police Accident Report	Not applicable
Eye glasses/contacts:	None	Not applicable
Vehicle Familiarity:	~ 16,100 km (10,000 mi) per year	Unknown
Route Familiarity:	Weekly	Infrequently
Trip Plan:	Shopping to Home	Fishing to Home
Manner of Leaving Scene:	Ambulance	Ambulance
Type of Medical Treatment:	Treated and released	Treated and released
<b><u>RIGHT FRONT PASSENGERS:</u></b>	34 year-old female	75 year-old male
Height:	163 cm (64 in)	163 cm (64 in)
Weight:	82 kg (180 lbs)	75 kg (165 lbs)
Active Restraint System/Usage:	3-point lap and shoulder/Used	3-point lap and shoulder/Used
Usage Source:	Vehicle inspection, Interviewee, Police Accident Report	Interviewee, Police Accident Report
Passive Restraint System/Usage:	Factory installed air bag / air bag deployed	None
Usage Source:	Vehicle inspection, Interviewee, Police Accident Report	Not applicable
Eye glasses/contacts:	None	Not applicable
Manner of Leaving Scene:	Ambulance	Unknown
Type of Medical Treatment:	Hospitalized	Treatment later

## HUMAN FACTORS/OCCUPANT DATA (CONTINUED)

	<b><u>Vehicle #2</u></b>
<b><u>CENTER REAR PASSENGER:</u></b>	66 year-old female
Height:	178 cm (70 in)
Weight:	93 kg (205 lbs)
Active Restraint System/Usage:	2-point lap/Used
Usage Source:	Interviewee and Police Accident Report
Passive Restraint System/Usage:	None
Usage Source:	Not applicable
Eye glasses/contacts:	Not applicable
Manner of Leaving Scene:	Ambulance
Type of Medical Treatment:	Treated and released

CASE VEHICLE DRIVER INJURIES<sup>6</sup>

<u>Description of Injury</u>	<u>A.I.S.</u>	<u>Source of Data</u>	<u>Injury Mechanism</u>	<u>Certainty</u>
Injury left fifth finger	752400.1,2	7 <sup>6</sup>	Steering column mounted turn signal indicator	{Certain}
Sprain right ankle	850206.1,1	7	Foot controls (e.g., accelerator)	{Probable}
Contusions chest	490402.1,4	7	Torso portion of seat belt	{Probable}
Contusions lower abdomen	590402.1,8	7	Lap portion of seat belt	{Probable}
Contusion left shoulder	790402.1,2	7	Torso portion of seat belt	{Probable}
Contusion right elbow	790402.1,1	7	Air bag, driver's side	{Probable}
Contusion left elbow	790402.1,2	7	Air bag, driver's side	{Probable}

<sup>6</sup> The medical facility which initially treated the case vehicle's driver cannot locate his medical records. The driver claims in his interview that his left fifth finger was fractured; however, an x-ray taken at a follow-up, medical facility, 45 days post-crash, indicated that no acute fracture was present nor indicated the presence of any evidence of a recent healing fracture.



## CASE VEHICLE DRIVER INJURIES (CONTINUED)

<u>Description of Injury</u>	<u>A.I.S.</u>	<u>Source of Data</u>	<u>Injury Mechanism</u>	<u>Certainty</u>
Laceration left hand	790600.1,2	7	Steering column mounted turn signal indicator	{Certain}
Abrasion right knee	890202.1,1	7	Center instrument panel and below	{Probable}

CASE VEHICLE RIGHT FRONT PASSENGER INJURIES<sup>7,8,9</sup>

<u>Description of Injury</u>	<u>A.I.S.</u>	<u>Source of Data</u>	<u>Injury Mechanism</u>	<u>Certainty</u>
Fracture pedicle(s) of C <sub>2</sub> (i.e., a Hangman's fracture)	650226.3,6	2 <sup>7</sup>	Air bag, passenger's side	{Probable}
Subluxation, 3 millimeters anteriorly, of C <sub>2</sub> on C <sub>3</sub>	650209.2,6	2	Air bag, passenger's side	{Probable}
Laceration lip and/or chin	290602.1,8	2	Air bag, passenger's side	{Probable}
Abrasion right forearm	790202.1,1	2	Right interior door surface	{Certain}
Contusion right forearm	790402.1,1	2	Right interior door surface	{Certain}
Abrasion left knee	890202.1,2	2	Glovebox door latch	{Certain}
Abrasion right knee	890202.1,1	2	Glovebox door	{Probable}
Fractured ribs, three, left lower side	450220.2,2	7 <sup>8</sup>	Torso portion of seat belt	{Possible}
Sprained right ankle	850206.1,1	7	Right toepan area	{Certain}
Contusion nose	290402.1,4	7	Air bag, passenger's side	{Certain}
Contusion chin <sup>9</sup>	290402.1,8	7	Air bag, passenger's side	{Certain}

<sup>7</sup> This contractor was not able to obtain the medical records from the facility to which this occupant was transferred and hospitalized. The records obtained were from the initial medical facility and the neurologist who was involved in the treatment and follow-up care at the "transferred to" facility. The records from the initial treatment facility indicate that this facility diagnosed the serious neck injury, stabilized the patient, and transferred her care to a hospital more capable to treating the serious nature of her injury. As a result, several nonlife-threatening injuries were either overlooked or not mentioned. The records obtained from the neurologist include the Discharge Summary from the "hospitalized" facility.

<sup>8</sup> This occupant indicated she had three fractured left lower ribs. The Discharge Summary from the "transferred to" facility reported a negative chest x-ray. This injury is retained because of the interviewee's precision pertaining to the reported rib fractures, the tenderness reported in the Discharge Summary near the alleged injury area, and the nonavailability of the actual chest x-ray. Without the actual x-ray, this contractor cannot be certain that the negative one reported examined the area in question.

<sup>9</sup> The interviewee indicated that this passenger's jaw joint was bruised. Given the lack of medical records from the facility to which this occupant was transported and because A.I.S. '90 does not allow a contusion to be coded to the temporomandibular joint, this contractor chose to code a contusion to the chin.

## CASE VEHICLE RIGHT FRONT PASSENGER INJURIES (CONTINUED)

<u>Description of Injury</u>	<u>A.I.S.</u>	<u>Source of Data</u>	<u>Injury Mechanism</u>	<u>Certainty</u>
Contusion abdomen (i.e., waist)	590402.1,8	7	Lap portion of seat belt	{Probable}
Contusion right shoulder	790402.1,1	7	Torso portion of seat belt	{Probable}
Lacerations, superficial, right middle finger and thumb	790602.1,1	7	Windshield	{Probable}
Contusion left hip	890402.1,2	7	Buckle portion of seat belt	{Probable}
Contusion right ankle	890402.1,1	7	Right toepan area	{Certain}

VEHICLE #2 DRIVER INJURIES<sup>10</sup>

<u>Description of Injury</u>	<u>A.I.S.</u>	<u>Source of Data</u>	<u>Injury Mechanism</u>	<u>Certainty</u>
Laceration under left eye	290600.1,2	7 <sup>10</sup>	Flying glass	{Probable}
Contusion right shoulder	790402.1,1	7	Torso portion of seat belt	{Probable}
Contusion left hip	890402.1,2	7	Lap portion of seat belt	{Probable}

## VEHICLE #2 RIGHT FRONT PASSENGER INJURIES

<u>Description of Injury</u>	<u>A.I.S.</u>	<u>Source of Data</u>	<u>Injury Mechanism</u>	<u>Certainty</u>
Fracture right fourth phalanx	752404.1,1	3	Right instrument panel and below	{Possible}
Sprain left shoulder	751020.1,2	3	Center instrument panel and below	{Probable}
Contusion over mid-sternum	490402.1,4	3	Torso portion of seat belt	{Probable}
Avulsion, partial, 1st, 2nd, and 3rd right fingernails	790802.1,1	3	Right instrument panel and below	{Possible}
Contusion right hand and/or fingers	790402.1,1	3	Right instrument panel and below	{Possible}
Contusion left head	190402.1,2	7	Center instrument panel and below	{Probable}
Contusion left jaw	290402.1,2	7	Center instrument panel and below	{Probable}

<sup>10</sup> No injuries were diagnosed on this driver's medical records. The right shoulder contusion was most likely a latent injury to the pain cited on the driver's records; however, the laceration under the left eye should have been observed in the emergency room.

## VEHICLE #2 MIDDLE REAR PASSENGER INJURIES

<u>Description of Injury</u>	<u>A.I.S.</u>	<u>Source of Data</u>	<u>Injury Mechanism</u>	<u>Certainty</u>
Contusion over left parietal scalp	190402.1,2	3	Driver's head restraint	{Probable}
Contusion left lateral thigh	890402.1,2	3	Back seat	{Possible}
Contusion left ribs	450202.1,2	7	Driver's seat	{Probable}
Contusion left shoulder	790402.1,2	7	Driver's seat	{Probable}

## DRIVER KINEMATICS

According to the case vehicle driver, his initial posture just prior to the impact was: sitting upright with his back against the seatback, left foot on the floor, and right foot on the accelerator. The inspection of the case vehicle revealed the driver's seat track was in the rear most position with the seatback in the upright position, but according to the case vehicle driver, he normally has his seat track in the middle position. Therefore, this contractor believes that the seat track most likely had been moved prior to our inspection. Since, according to the case vehicle driver, he did not have time to attempt any evasive actions, there were no applicable pre-crash driver movements.

Based on the vehicle inspection and occupant kinematic principles, the case vehicle's impact with vehicle #2 deployed both the driver and right front passenger air bags. This high speed impact caused a severe longitudinal deceleration which most likely thrust the driver forward and slightly to the right. As a result the case vehicle driver loaded the shoulder belt portion of his active, three-point, lap and shoulder belt and to slightly deform the upper half of the steering wheel rim. According to the case vehicle driver, he had bruises to his left shoulder, chest, and waistline from the lap and shoulder belt. The inspection of the case vehicle's dashboard/knee bolster area showed no evidence of contact or deformation although the driver claims his right knee contacted it causing an abrasion. The case vehicle's driver restraints (i.e. the air bag and belts) appeared to have performed as designed by absorbing as much energy as possible and preventing any significant<sup>11</sup> injuries from the air bag. The driver claims that he did not contact the deploying air bag with his face because his seatbelts held him back.

The case vehicle rotated counterclockwise between the initial impact and the sideslap impact. According to the case vehicle driver, he could not recall his movement between the two impacts and indicated that the two impacts felt like one crash. Based on occupant kinematic principles, the driver most likely moved towards the right as a result of the sideslap impact. The driver's movement was restricted of course by the lap portion of his three-point belt. The driver most likely quickly rebounded back to the left as it rotated back clockwise after the sideslap impact. Since the air bag had deployed, it had no effect on the driver's movements.

After the two impacts with vehicle #2, the case vehicle driver stated that he was still in a good driving position to try and prevent the case vehicle from departing the right side of the roadway.

<sup>11</sup> The driver indicated that both of his elbows were bruised from the deploying air bag. In addition, the driver's left hand was most likely thrust forward during the initial impact causing a laceration to his left hand and an injury to his left fifth finger from braking the turn signal switch off the steering column.

## DRIVER KINEMATICS (CONTINUED)

However, the case vehicle's restricted right front tire directed the case vehicle off the roadway. According to the scene evidence and the driver's interview, the case vehicle went down the steep slope until it came to rest in the mud halfway down the embankment heading in a northerly direction. According to the case vehicle driver, at final rest he could not recall exactly how he was positioned, but he believes it was pretty close to his original seating position.

## PASSENGER KINEMATICS

According to this occupant, her posture immediately prior to the crash was: sitting upright with her back against the seatback. The occupant could not recall how her arms and hands were positioned. The vehicle inspection showed that the seat track was in the middle to rearward position with the seatback in the reclined position. This passenger's seatback appears to have been repositioned most likely during the extrication process. Since, according to the case vehicle driver, he did not have time to attempt any evasive actions, there were no applicable pre-crash movements by the right front passenger.

Based on the vehicle inspection and occupant kinematic principles, the case vehicle's impact with vehicle #2 deployed the passenger's air bag. This high speed impact caused a severe longitudinal deceleration which most likely thrust the passenger forward and slightly to the right loading the shoulder portion of her active, three-point, lap and shoulder belt. According to right front passenger, she had three broken ribs and bruises to her right shoulder, abdomen, and left hip from the lap and shoulder belt. Since the passenger's shoulder belt was fully locked-up, her neck most likely flexed forward from the initial impact and contacted the deploying air bag with her face. The right front air bag most likely delivered the upward thrust that caused the right front passenger's cervical fracture. The right front air bag was not tethered.

As a result of this contact with the untethered air bag, she sustained a cervical fracture through the pedicle of C<sub>2</sub> (i.e., a classic hangman's fracture; see **Appendix R**) and soft tissue injuries to her nose, lip, and chin. The inspection of the case vehicle revealed several visible contacts on the air bag which appeared to be black eye makeup and skin oil transfers. The inspection of the case vehicle's right dash/glovebox/knee bolster area showed scuffs supporting the passenger's claimed left knee laceration. The case vehicle's right front passenger restraints (i.e. air bag and seatbelts) appear to have performed as designed by absorbing as much energy as possible.

The case vehicle rotated counterclockwise between the initial impact and the sideslap impact. According to the case vehicle passenger, she distinctly recalls the sideslap impact but not her movement between the two impacts. Based on occupant kinematic principles, the right front passenger most likely moved towards the right as a result of the sideslap impact. The driver's movement was restricted by the lap portion of her three-point belt and the right front interior door surface. The passenger most likely quickly rebounded back to the left as it rotated back clockwise after the sideslap impact. Since the air bag had deployed, it had no effect on the passenger's movements.

## PASSENGER KINEMATICS (CONTINUED)

After the two impacts the case vehicle veered off the roadway to the right and down a steep embankment. The occupant was most likely disoriented at this point, and she most likely slumped forward while the vehicle pitched forward; however, she was still restrained by her seatbelts. At final rest the occupant was unsure of her position in the vehicle.

## AIR BAG SYSTEM

	<u>DRIVER AIR BAG</u>	<u>PASSENGER AIR BAG</u>
Air Bag Diameter (seam-to-seam, deflated):	64 cm (25.2 in) top-to-bottom; 54 cm (21.3 in) side-to-side	66 cm (26.0 in) side-to-side
Number of Vent Holes:	Two	One
Vent Hole Diameter:	3 cm (1.2 in)	5 cm (2.0 in)
Vent Hole Clock Positions:	3 and 9 o'clock	10 o'clock
Generant Residue:	No unusual amount found	No unusual amount found

**ACCIDENT COLLISION MEASUREMENT TABLE**



# ACCIDENT COLLISION MEASUREMENT TABLE

Primary Sampling Unit Number 10

Case Number—Stratum 9510

## ACCIDENT COLLISION DIAGRAM

### Document the physical plant:

- all road/roadway delineation (e.g., curbs/edge lines, lane markings, median markings, pavement markings, parked vehicles, poles, signs, etc.)
- all traffic controls (e.g., speed limit)
- north arrow placed on diagram
- roadway surface type and condition of applicable roadways
- grade measurements for all applicable roadways and at location of rollover initiation
- roadway curvature

### Document vehicle dynamics including:

- reference point and reference line relative to physical features present at the scene
- scaled documentation of all accident induced physical evidence
- scaled documentation of all roadside objects contacted
- scaled representations of the vehicle(s) at pre-impact, impact, and final rest based upon either:
  - a) physical evidence, or
  - b) reconstructed accident dynamics

### CRASH DATA

VEH. #1 VEH. #2 VEH. #3

Heading Angle 290° 183° —

Surface Type Portland Cement —

Surface Condition Dry Dry —

Coefficient of Friction — — —

Grade (v/h) Measurement (between impact and final rest) — — —

Grade (v/h) Measurement (at location of rollover initiation) N/A N/A —

Reference Point: \_\_\_\_\_

Reference line: \_\_\_\_\_

Item	Distance and Direction from Reference Point	Distance and Direction from Reference Line
Rotation scuff BEG	33.10 EAST	18.3 S
" " END	19.01 EAST	16.10 S
RF MARK on shoulder BEG	74.10 W	0 N
" " " END	92.7 W	10.5 N
LF on Embankment BEG	101.9 W	10.5 N
" " " MID	114.0 W	18.6 N
" " " END	127.0 W	55.2 N
RF on Embankment BEG	92.7 W	10.5 N
" " " MID	114.0 W	31 N
" " " END	122.1 W	55.2 N
BROKEN GLASS	111.2 W	38.5 N

[illegible]



**Appendix A:**

**POLICE ACCIDENT REPORT**

ACCIDENT REPORT ST-3 (REV. 11/83)		MAIL TO: STATISTICAL SERVICES DEPARTMENT OF PUBLIC SAFETY.	
PLACE WHERE ACCIDENT OCCURRED COUNTY _____ CITY OR TOWN _____ IF ACCIDENT WAS OUTSIDE CITY LIMITS, INDICATE DISTANCE FROM NEAREST TOWN <u>6.9</u> MILES NORTH S E W OF _____ SHOW ONLY IF INSIDE CITY LIMITS		LOC. NO. _____ DO NOT WRITE IN THIS SPACE OPS NO. _____ LOC. _____ CODE _____ SEVERITY _____ TYPE _____ FAT. REC. _____ DR. REC. _____	
ROAD ON WHICH ACCIDENT OCCURRED _____ INTERSECTING STREET OR RR X'ING NUMBER _____ NOT AT INTERSECTION _____ BLOCK NUMBER _____ STREET OR ROAD NAME _____ ROUTE NUMBER OR STREET CODE _____ BLOCK NUMBER _____ STREET OR ROAD NAME _____ ROUTE NUMBER OR STREET CODE _____ FT. <input type="checkbox"/> MI. N S E W <input type="checkbox"/> OF _____ ROAD _____ MP _____ SHOW MILEPOST ON NEAREST INTERSECTING NUMBERED HIGHWAY IF NONE, SHOW NEAREST INTERSECTING STREET OR REFERENCE POINT		CONSTR. <input type="checkbox"/> YES SPEED <u>55</u> ZONE <input checked="" type="checkbox"/> NO LIMIT CONSTR. <input type="checkbox"/> YES SPEED _____ ZONE <input type="checkbox"/> NO LIMIT	
DATE OF ACCIDENT <u>04-19-95</u> DAY OF WEEK _____ HOUR <u>9:10</u> <input type="checkbox"/> A.M. IF EXACTLY NOON <input checked="" type="checkbox"/> P.M. OR MIDNIGHT, SO STATE			
UNIT NO. 1 - MOTOR VEHICLE YEAR <u>1994</u> COLOR & MAKE <u>BLUE PONTIAC</u> MODEL <u>GRAND PRIX</u> BODY STYLE <u>FOUR DOOR</u> LICENSE PLATE <u>TX</u> DRIVER'S NAME _____ DRIVER'S LICENSE _____ DOB _____ RACE <u>W</u> SEX <u>M</u> OCCUPATION <u>INTERMEDIATE TEACHER</u> SPECIMEN TAKEN (ALCOHOL/DRUG ANALYSIS) 1-BREATH 2-BLOOD 3-OTHER 4-NONE 5-REFUSED <u>4</u> ALCOHOL/DRUG ANALYSIS RESULT <u>43</u> LESSEE <input type="checkbox"/> OWNER <input checked="" type="checkbox"/> NAME (ALWAYS SHOW LESSEE IF LEASED, OTHERWISE SHOW OWNER) _____ LIABILITY <input checked="" type="checkbox"/> YES INSURANCE <input type="checkbox"/> NO _____ VEHICLE DAMAGE RATING <u>12FR7 3RBQ3</u>		IF BODY STYLE = VAN OR BUS, INDICATE SEATING CAPACITY _____ PEACE OFFICER, EMS DRIVER, FIRE FIGHTER ON EMERGENCY? <input type="checkbox"/> YES <input type="checkbox"/> NO	
UNIT NO. 2 TOWED <input type="checkbox"/> PEDESTRIAN <input type="checkbox"/> OTHER <input type="checkbox"/> YEAR <u>1990</u> COLOR & MAKE <u>BLACK FORD</u> MODEL <u>FIS0XLT LARIAT</u> BODY STYLE <u>EXTENDED CAB PICKUP TRUCK</u> LICENSE PLATE <u>TX</u> DRIVER'S NAME _____ DRIVER'S LICENSE _____ DOB _____ RACE <u>B</u> SEX <u>M</u> OCCUPATION <u>RETIRED</u> SPECIMEN TAKEN (ALCOHOL/DRUG ANALYSIS) 1-BREATH 2-BLOOD 3-OTHER 4-NONE 5-REFUSED <u>4</u> ALCOHOL/DRUG ANALYSIS RESULT <u>73</u> LESSEE <input type="checkbox"/> OWNER <input checked="" type="checkbox"/> NAME (ALWAYS SHOW LESSEE IF LEASED, OTHERWISE SHOW OWNER) _____ LIABILITY <input checked="" type="checkbox"/> YES INSURANCE <input type="checkbox"/> NO _____ VEHICLE DAMAGE RATING <u>9LFR7 9LBQ1</u>		IF BODY STYLE = VAN OR BUS, INDICATE SEATING CAPACITY _____ PEACE OFFICER, EMS DRIVER, FIRE FIGHTER ON EMERGENCY? <input type="checkbox"/> YES <input type="checkbox"/> NO	
DAMAGE TO PROPERTY OTHER THAN VEHICLES: OBJECT _____ NAME AND ADDRESS OF OWNER _____ FEET FROM CURB _____ DAMAGE ESTIMATE _____			
LIGHT CONDITION <u>3</u> 1-DAYLIGHT 2-DAWN 3-DARK-NOT LIGHTED 4-DARK-LIGHTED 5-DUSK	WEATHER <u>1 2</u> 1-CLEAR/CLDY 2-RAINING 3-SNOWING 4-FOG 5-BLOWING DUST 6-SMOKE 7-SLEETING 8-HIGH WINDS 9-OTHER	SURFACE CONDITION <u>2</u> 1-DRY 2-WET 3-MUDDY 4-SNOWY/ICY 5-OTHER	TYPE ROAD SURFACE <u>2</u> 1-BLACKTOP 2-CONCRETE 3-GRAVEL 4-SHELL 5-DIRT 6-OTHER
DESCRIBE ROAD CONDITIONS (INVESTIGATOR'S OPINION) <u>DID NOT CONTRIBUTE.</u>			
IN YOUR OPINION, DID THIS ACCIDENT RESULT IN AT LEAST \$500.00 DAMAGE TO ANY ONE PERSON'S PROPERTY? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
CHARGES FILED NAME _____ CHARGE <u>FAIL TO YIELD RIGHT-OF-WAY; PRIVATE DRIVE</u> CITATION NUMBER _____ NAME _____ CHARGE _____ CITATION NUMBER _____			
TIME NOTIFIED OF ACCIDENT <u>1995 9:30 P</u> IN HOW <u>RADIO</u> TIME ARRIVED AT SCENE OF ACCIDENT <u>1995 9:44 P</u> M TYPED OR PRINTED NAME OF INVESTIGATOR _____ DATE REPORT MADE <u>1995</u> IS REPORT COMPLETE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO SIGNATURE OF INVESTIGATOR _____ ID NO. _____ DEPARTMENT <u>DPS-HP</u> DIST./AREA _____			

EJECTED	CODE FOR TYPE RESTRAINT USED	AIRBAG CODE	HELMET USE	CODE FOR INJURY SEVERITY	ALCOHOL/DRUG ANALYSIS (COMPLETE IF CASUALTIES NOT IN MOTOR VEHICLE)
A - NOT APPLICABLE Y - YES N - NO P - PARTIALLY U - UNK	A - SEATBELT & SHOULDER STRAP B - SEATBELT & NO SHOULDER STRAP C - CHILD RESTRAINT E - SHOULDER STRAP ONLY N - NONE	Y - DEPLOYED N - NO DEPLOYMENT U - UNK IF DEPLOYED	1 - WORN-DAMAGED 2 - WORN-NOT DAMAGED 3 - WORN-UNK IF DAMAGED 4 - NOT WORN 5 - UNK IF WORN	K - KILLED A - INCAPACITATING INJURY B - NON INCAPACITATING C - POSSIBLE INJURY N - NOT INJURED	1 - BREATH 2 - BLOOD 3 - OTHER 4 - NONE 5 - REFUSED

UNIT NO. 1 DAMAGE RATING <b>12FR7</b>	TOWED DUE TO DAMAGE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	VEHICLE REMOVED TO <b>WRECKER</b>							
COMPLETE ALL DATA ON ALL OCCUPANTS' NAMES, POSITIONS, RESTRAINTS USED, ETC.; HOWEVER, IT IS NOT NECESSARY TO SHOW ADDRESSES UNLESS KILLED OR INJURED.									
OCCUPANT'S POSITION	NAME (LAST NAME FIRST)	ADDRESS	EJECTED	TYPE RESTRAINT USED	AIRBAG	HELMET	AGE	SEX	INJURY CODE
DRIVER	SEE FRONT								
RF									

UNIT NO. 2 (COMPLETE ONLY IF UNIT OR 2 WAS A MOTOR VEHICLE) DAMAGE RATING <b>9LFQ7</b>	TOWED DUE TO DAMAGE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	VEHICLE REMOVED TO <b>WRECKER</b>							
COMPLETE ALL DATA ON ALL OCCUPANTS' NAMES, POSITIONS, RESTRAINTS USED, ETC.; HOWEVER, IT IS NOT NECESSARY TO SHOW ADDRESSES UNLESS KILLED OR INJURED.									
OCCUPANT'S POSITION	NAME (LAST NAME FIRST)	ADDRESS	EJECTED	TYPE RESTRAINT USED	AIRBAG	HELMET	AGE	SEX	INJURY CODE
DRIVER	SEE FRONT								
RF									
RR									

COMPLETE IF CASUALTIES NOT IN MOTOR VEHICLE

PEDESTRIAN, PEDALCYCLIST ETC.	CASUALTY NAME (LAST NAME FIRST)	CASUALTY ADDRESS	TYPE SPECIMEN TAKEN	RESULT	HELMET	AGE	SEX	INJURY CODE

DISPOSITION OF KILLED AND INJURED				IF AMBULANCE USED, SHOW		
ITEM NUMBERS	TAKEN TO	BY	TIME NOTIFIED	TIME ARRIVED AT SCENE	NO. ATTENDANTS INC. DRIVER	
1,2	Hospital ER	EMS MEDIC	9:32p	9:37p	2	
6,8	Hospital E.R.	EMS MEDIC	9:14p	9:17p	3	

COMPLETE THIS SECTION IF PERSON KILLED

ITEM NUMBER	DATE OF DEATH	TIME OF DEATH	ITEM NUMBER	DATE OF DEATH	TIME OF DEATH	ITEM NUMBER	DATE OF DEATH	TIME OF DEATH

INVESTIGATOR'S NARRATIVE OPINION OF WHAT HAPPENED (ATTACH ADDITIONAL SHEETS IF NECESSARY)

#7 Hospital ER - BY Auto.

Unit #1 WAS WESTBOUND ON S.H. W APPROX. CHING IN CENTER OF (3) W/B LANES. UNIT #2 ENTERED S.H. TO GO EAST FROM DENVER AT NORTH SIDE OF HIGHWAY. #2 PULLED INTO PATH OF #1 AND WAS STRUCK BY #1, ROTA-TING #2 90° COUNTERCLOCKWISE, #1 SPUN AROUND AND RAN OFF ROADWAY.

DIAGRAM ☐ ONE WAY ☒ TWO WAY ☐ DIVIDED

① INDICATE NORTH

FACTORS AND CONDITIONS LISTED ARE THE INVESTIGATOR'S OPINION

FACTORS/CONDITIONS CONTRIBUTING			OTHER FACTORS/CONDITIONS MAY OR MAY NOT HAVE CONTRIBUTED		
UNIT 1	1	2	UNIT 1	1	2
UNIT 2	20	34	UNIT 2	1	2

- ARRIVAL ON ROAD - DOMESTIC
- ARRIVAL ON ROAD - WILD
- BACKED WITHOUT SAFETY
- CHANGED LANE WHEN UNSAFE
- DEFECTIVE OR NO STOP LAMPS
- DEFECTIVE OR NO STOP LAMPS
- DEFECTIVE OR NO TAIL LAMPS
- DEFECTIVE OR NO TURN SIGNAL LAMPS
- DEFECTIVE OR NO TRAILER BRAKES
- DEFECTIVE OR NO VEHICLE BRAKES
- DEFECTIVE STEERING MECHANISM
- DEFECTIVE OR SLICK TIRES
- DEFECTIVE TRAILER HITCH
- DISABLED IN TRAFFIC LANE
- DISOBEYED STOP AND GO SIGNAL
- DISOBEYED STOP SIGN ON LIGHT
- DISOBEYED TURN MARKS AT INTERSECTION
- DISOBEYED WARNING SIGN AT CONSTRUCTION
- DISTRACTION IN VEHICLE
- DRIVER INATTENTION
- DRIVE WITHOUT HEADLIGHTS
- FAILED TO CONTROL SPEED
- FAILED TO DRIVE IN SINGLE LANE
- FAILED TO DRIVE HALF OF ROADWAY
- FAILED TO HEED WARNING SIGN
- FAILED TO PASS TO LEFT SAFELY
- FAILED TO PASS TO RIGHT SAFELY
- FAILED TO SIGNAL OR GIVE WARNING SIGNAL
- FAILED TO STOP AT PROPER PLACE
- FAILED TO STOP FOR SCHOOL BUS
- FAILED TO STOP FOR TRAIN
- FAILED TO YIELD NOW - EMERGENCY VEHICLE
- FAILED TO YIELD NOW - OPEN INTERSECTION
- FAILED TO YIELD NOW - PRIVATE DRIVE
- FAILED TO YIELD NOW - STOP SIGN
- FAILED TO YIELD NOW - TO PEDESTRIAN
- FAILED TO YIELD NOW - TURNING LEFT
- FAILED TO YIELD NOW - TURN ON RED
- FAILED TO YIELD NOW - YIELD SIGN
- FATIGUED OR ASLEEP
- FAULTY EVASIVE ACTION
- FLARE IN VEHICLE
- FLEEING OR EVADING POLICE
- FOLLOWING TOO CLOSELY
- HAD BEEN DRIVING
- HANDICAPPED DRIVER (EXPLAIN IN NARRATIVE)
- ILL (EXPLAIN IN NARRATIVE)
- IMPROPER VISIBILITY (EXPLAIN IN NARRATIVE)
- IMPROPER START FROM PARKED POSITION
- LOAD NOT SECURED
- OPENED DOOR INTO TRAFFIC LANE
- OVERSLEPT VEHICLE ON LOAD
- OVERSLEPT AND PASSED INSUFFICIENT CLEARANCE
- PARKED AND FAILED TO SET BRAKES
- PARKED IN TRAFFIC LANE
- PARKED WITHOUT LIGHTS
- PASSED IN ON PASSING ZONE
- PASSED ON RIGHT SHOULDER
- PEDESTRIAN FAILED TO YIELD NOW TO VEHICLE
- SPEEDING - UNSAFE (OVERSPEED LIMIT)
- SPEEDING - OVER LIMIT
- TAKING INDICATION (EXPLAIN IN NARRATIVE)
- TURNED IMPROPERLY - CUT CORNER ON LEFT
- TURNED IMPROPERLY - WIDE RIGHT
- TURNED IMPROPERLY - WRONG LANE
- TURNED WHEN UNSAFE
- UNDER INFLUENCE - ALCOHOL
- UNDER INFLUENCE - DRUGS
- WRONG SIDE - APPROACH ON IN INTERSECTION
- WRONG SIDE - NOT PASSING
- WRONG WAY - ONE WAY ROAD
- OTHER FACTOR (WRITE IN OR LINE BELOW)

**Appendix B:**

**RECONSTRUCTION PROGRAM RESULTS:**

**CRASHPC  
(DAMAGE ONLY ALGORITHM)**

**CRASHPC  
(BARRIER OPTION--CASE VEHICLE AND VEHICLE #2)**

**EDCRASH  
(DAMAGE ONLY ALGORITHM)**

**TRC VECTOR ANALYSIS ITERATIONS**

**CRASHPC**  
**(DAMAGE ONLY ALGORITHM)**



U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

## CRASHPC PROGRAM SUMMARY

(All Measurements in Metric)

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

### Identifying Title

10  
Primary  
Sampling Unit

9510  
Case No.-Stratum

01  
Accident Event  
Sequence No.

\_\_\_\_\_  
Date (Month, day, year) of Run

### CRASHPC Vehicle Identification

Vehicle 1

94

PONTIAC

GRAND PRIX

1

Vehicle 2

90  
Year

FORD  
Make

F150  
Model

2  
NASS  
Ven. No

### GENERAL INFORMATION

#### VEHICLE 1

Size

3

Weight

1529 + 175 + 34 = 1738 kg  
Curb Occupant(s) Cargo

CDC

12 F D E W 3

PDOF (-180 to +180)

100°

Stiffness

9

#### VEHICLE 2

Size

6

Weight

1899 + 255 = 2154 kg  
Curb Occupant(s) Cargo

CDC

10 L F E W 5

PDOF (-180 to +180)

60°

Stiffness

6

### SCENE INFORMATION

Rest and Impact Positions ☒ No, Go To Damage Information ☐ Yes

#### VEHICLE 1

Rest  
Position

X \_\_\_\_\_ m  
Y \_\_\_\_\_ m  
PSI \_\_\_\_\_ °

Impact  
Position

X \_\_\_\_\_ m  
Y \_\_\_\_\_ m  
PSI \_\_\_\_\_ °

Slip Angle(-180 to +180)

\_\_\_\_\_ °

#### VEHICLE 2

Rest  
Position

X \_\_\_\_\_ m  
Y \_\_\_\_\_ m  
PSI \_\_\_\_\_ °

Impact  
Position

X \_\_\_\_\_ m  
Y \_\_\_\_\_ m  
PSI \_\_\_\_\_ °

Slip Angle (-180 to +180)

\_\_\_\_\_ °

### VEHICLE MOTION

Sustained Contact ☐ No ☐ Yes

#### VEHICLE 1

Vehicle Rotation ☐ No ☐ Yes

Rotation Stop Before Rest ☐ No ☐ Yes

End of Rotation  
Position X \_\_\_\_\_ m  
Y \_\_\_\_\_ m  
PSI \_\_\_\_\_ °

Curved Path ☐ No ☐ Yes

Point on Path  
X \_\_\_\_\_ m Y \_\_\_\_\_ m

Rotation Direction ☐ None ☐ CW ☐ CCW

Rotation >360° ☐ No ☐ Yes

#### VEHICLE 2

Vehicle Rotation ☐ No ☐ Yes

Rotation Stop Before Rest ☐ No ☐ Yes

End of Rotation  
Position X \_\_\_\_\_ m  
Y \_\_\_\_\_ m  
PSI \_\_\_\_\_ °

Curved Path ☐ No ☐ Yes

Point on Path  
X \_\_\_\_\_ m Y \_\_\_\_\_ m

Rotation Direction ☐ None ☐ CW ☐ CCW

Rotation >360° ☐ No ☐ Yes

## FRICTION INFORMATION

Coefficient of Friction \_\_\_\_\_

Rolling Resistance Option \_\_\_\_\_

## Vehicle 1 Rolling Resistance

 LF \_\_\_\_\_ RF \_\_\_\_\_  
 LR \_\_\_\_\_ RR \_\_\_\_\_

## Vehicle 2 Rolling Resistance

 LF \_\_\_\_\_ RF \_\_\_\_\_  
 LR \_\_\_\_\_ RR \_\_\_\_\_

## TRAJECTORY INFORMATION

Trajectory Data ☐ No ☐ Yes

If No, Go To Damage Information

## Vehicle 1 Steer Angles

 LF \_\_\_\_\_ ° RF \_\_\_\_\_ °  
 LR \_\_\_\_\_ ° RR \_\_\_\_\_ °

## Vehicle 2 Steer Angles

 LF \_\_\_\_\_ ° RF \_\_\_\_\_ °  
 LR \_\_\_\_\_ ° RR \_\_\_\_\_ °
Terrain Boundary ☐ No ☐ Yes

## First Point

X \_\_\_\_\_ m Y \_\_\_\_\_ m

## Second Point

X \_\_\_\_\_ m Y \_\_\_\_\_ m

Secondary Coefficient of Friction \_\_\_\_\_

## DAMAGE INFORMATION

## VEHICLE 1

Damage Length L 146 cm
 Crush Depths  
 C<sub>1</sub> 2 cm  
 C<sub>2</sub> 29 cm  
 C<sub>3</sub> 49 cm  
 C<sub>4</sub> 55 cm  
 C<sub>5</sub> 53 cm  
 C<sub>6</sub> 53 cm
Damage Offset D ⊕ 10 cm

## VEHICLE 2

Damage Length L 122 cm
 Crush Depths  
 C<sub>1</sub> 0 cm  
 C<sub>2</sub> 11 cm  
 C<sub>3</sub> 52 cm  
 C<sub>4</sub> 76 cm  
 C<sub>5</sub> 74 cm  
 C<sub>6</sub> 92 cm
Damage Offset D ⊕ 190 cm

IF THIS COMMON IMPACT WAS WITH A MOTOR VEHICLE NOT IN TRANSPORT, FILL IN THE INFORMATION BELOW.

Model Year: \_\_\_\_\_

Make: \_\_\_\_\_

Model: \_\_\_\_\_

VIN: \_\_\_\_\_

The Weight, CDC, Scene Data and Damage Information for this vehicle should be recorded above.

Complete and ATTACH the appropriate vehicle damage sketch and dimensions to the Form.

# SUMMARY OF CRASHPC RESULTS USING DAMAGE

## Special Crash Investigations TRC/IU 95-10

### SPEED CHANGE (DAMAGE)

#### VEHICLE #1

TOTAL 36 KPH ( 23 MPH)  
 LONGITUDINAL -36 KPH ( -22 MPH)  
 LATITUDINAL -6 KPH ( -4 MPH)  
 PDOF ANGLE 10 DEGREES  
 ENERGY DISSIPATED = 95299 JOULES ( 70279 FT-LB)

#### VEHICLE #2

TOTAL 29 KPH ( 18 MPH)  
 LONGITUDINAL -15 KPH ( -9 MPH)  
 LATITUDINAL 25 KPH ( 16 MPH)  
 PDOF ANGLE -60 DEGREES  
 ENERGY DISSIPATED = 122776 JOULES ( 90543 FT-LB)

### DAMAGE DATA

	VEHICLE #1	VEHICLE #2
SIZE CATEGORY	3	6
STIFFNESS CATEGORY	9	6
VEHICLE WEIGHT	1738 KGS ( 3832 LBS)	2154 KGS ( 4749 LBS)
CDC	12FDEW3	10LFEW5
PDOF ANGLE	10 DEGREES	-60 DEGREES
CRUSH LENGTH	146 CM. ( 57 IN.)	122 CM. ( 48 IN.)
C1	2 CM. ( 1 IN.)	0 CM. ( 0 IN.)
C2	29 CM. ( 11 IN.)	11 CM. ( 4 IN.)
C3	49 CM. ( 19 IN.)	52 CM. ( 20 IN.)
C4	55 CM. ( 22 IN.)	76 CM. ( 30 IN.)
C5	53 CM. ( 21 IN.)	74 CM. ( 29 IN.)
C6	55 CM. ( 22 IN.)	92 CM. ( 36 IN.)
D	10 CM. ( 4 IN.)	190 CM. ( 75 IN.)
D'	23 CM. ( 9 IN.)	209 CM. ( 82 IN.)

(\* INDICATES DEFAULT VALUE)

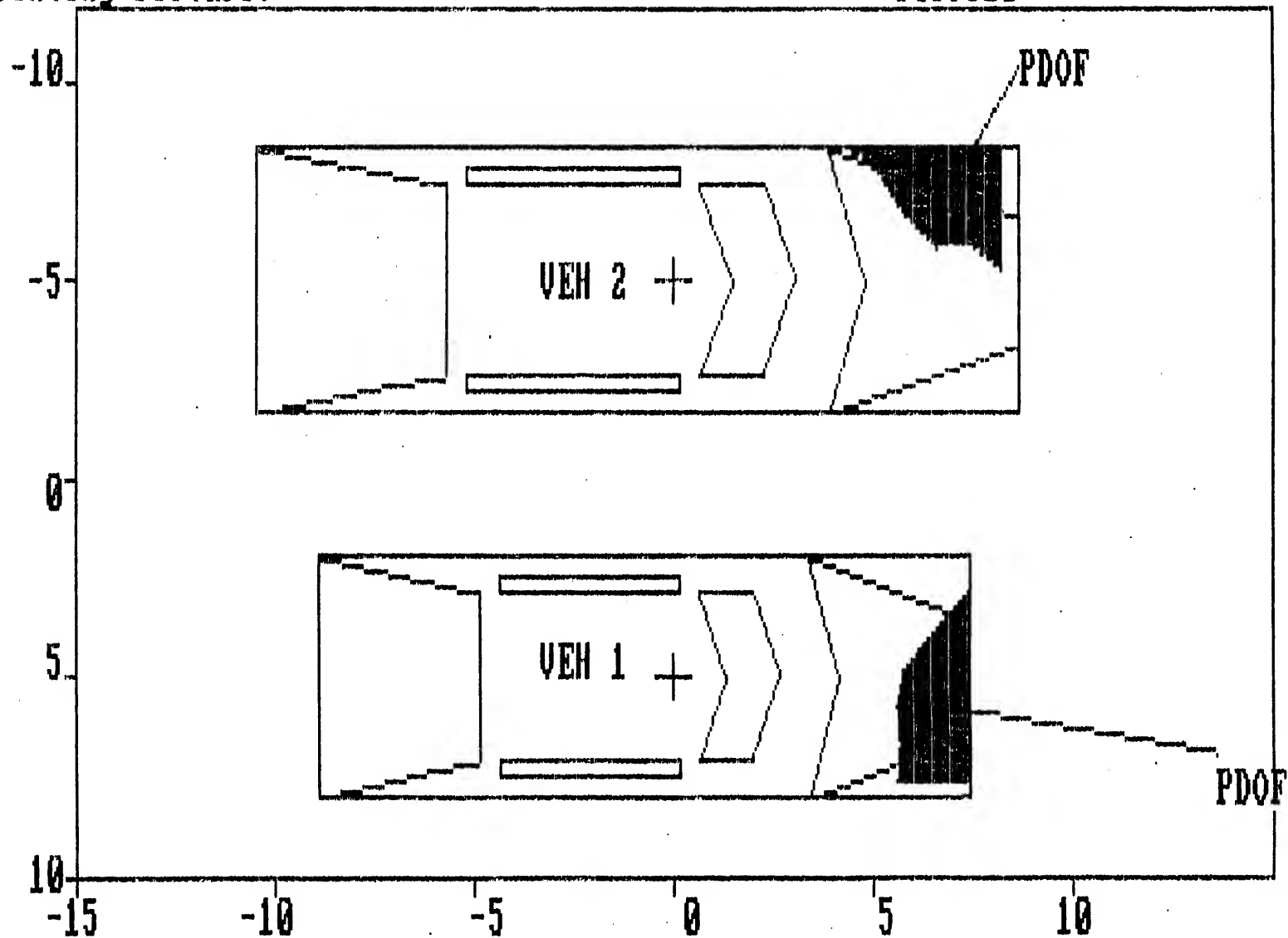
### DIMENSIONS AND INERTIAL PROPERTIES

	VEHICLE #1	VEHICLE #2
CG TO FRONT AXLE	130 CM. ( 51 IN.)	153 CM. ( 60 IN.)
CG TO REAR AXLE	141 CM. ( 56 IN.)	165 CM. ( 65 IN.)
TRACK	150 CM. ( 59 IN.)	162 CM. ( 64 IN.)
CG TO FRONT OF VEH	228 CM. ( 90 IN.)	265 CM. ( 104 IN.)
CG TO REAR OF VEH	-270 CM. (-106 IN.)	-318 CM. (-125 IN.)
CG TO SIDE OF VEH	92 CM. ( 36 IN.)	101 CM. ( 40 IN.)
MOMENT OF INERTIA	15021 KGS ( 33115 LBS)	23685 KGS ( 52216 LBS)
VEHICLE MASS	5 KGS ( 10 LBS)	6 KGS ( 12 LBS)



Printing Picture:

SCI9510



DAMAGE DESCRIPTION

**CRASHPC**

**(BARRIER OPTION--CASE VEHICLE AND VEHICLE #2)**

# SUMMARY OF CRASHPC RESULTS USING DAMAGE

## Special Crash Investigations TRC/IU 95-10

### SPEED CHANGE (DAMAGE)

#### VEHICLE #1

TOTAL 37 KPH ( 23 MPH)  
 LONGITUDINAL -37 KPH ( -23 MPH)  
 LATITUDINAL -7 KPH ( -4 MPH)  
 PDOF ANGLE 10 DEGREES  
 ENERGY DISSIPATED = 95299 JOULES ( 70279 FT-LB)

#### VEHICLE #2

TOTAL 0 KPH ( 0 MPH)  
 LONGITUDINAL 0 KPH ( 0 MPH)  
 LATITUDINAL 0 KPH ( 0 MPH)  
 PDOF ANGLE 0 DEGREES  
 ENERGY DISSIPATED = 0 JOULES ( 0 FT-LB)

### DAMAGE DATA

	VEHICLE #1	VEHICLE #2
SIZE CATEGORY	3	11
STIFFNESS CATEGORY	9	0
VEHICLE WEIGHT	1738 KGS ( 3832 LBS)	***** KGS (2204586 LBS) *
CDC	12FDEW3	BARRIER
PDOF ANGLE	10 DEGREES	0 DEGREES *
CRUSH LENGTH	146 CM. ( 57 IN.)	0 CM. ( 0 IN.) *
C1	2 CM. ( 1 IN.)	0 CM. ( 0 IN.) *
C2	29 CM. ( 11 IN.)	0 CM. ( 0 IN.) *
C3	49 CM. ( 19 IN.)	0 CM. ( 0 IN.) *
C4	55 CM. ( 22 IN.)	0 CM. ( 0 IN.) *
C5	53 CM. ( 21 IN.)	0 CM. ( 0 IN.) *
C6	55 CM. ( 22 IN.)	0 CM. ( 0 IN.) *
D	10 CM. ( 4 IN.)	0 CM. ( 0 IN.) *
D'	23 CM. ( 9 IN.)	0 CM. ( 0 IN.) *

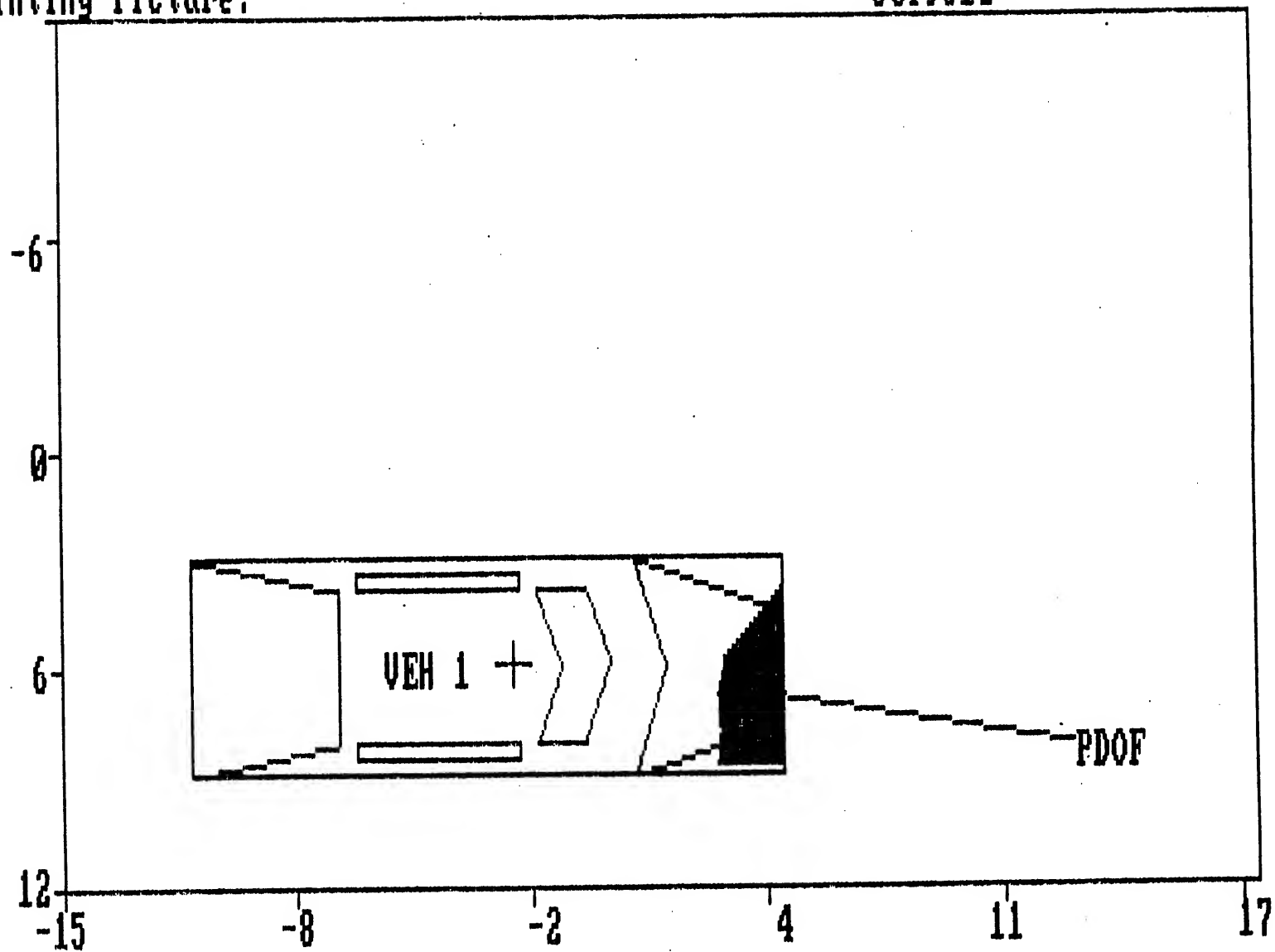
(\* INDICATES DEFAULT VALUE)

### DIMENSIONS AND INERTIAL PROPERTIES

	VEHICLE #1	VEHICLE #2
CG TO FRONT AXLE	130 CM. ( 51 IN.)	127 CM. ( 50 IN.)
CG TO REAR AXLE	141 CM. ( 56 IN.)	127 CM. ( 50 IN.)
TRACK	150 CM. ( 59 IN.)	127 CM. ( 50 IN.)
CG TO FRONT OF VEH	228 CM. ( 90 IN.)	127 CM. ( 50 IN.)
CG TO REAR OF VEH	-270 CM. (-106 IN.)	-127 CM. ( -50 IN.)
CG TO SIDE OF VEH	92 CM. ( 36 IN.)	127 CM. ( 50 IN.)
MOMENT OF INERTIA	15021 KGS ( 33115 LBS)	***** KGS (***** LBS)
VEHICLE MASS	5 KGS ( 10 LBS)	2600 KGS ( 5732 LBS)

Printing Picture:

SCI9510



DAMAGE DESCRIPTION

# SUMMARY OF CRASHPC RESULTS USING DAMAGE

Special Crash Investigations TRC/IU Case 95-10

## SPEED CHANGE (DAMAGE)

### VEHICLE #1

TOTAL 0 KPH ( 0 MPH)  
 LONGITUDINAL 0 KPH ( 0 MPH)  
 LATITUDINAL 0 KPH ( 0 MPH)  
 PDOF ANGLE 0 DEGREES  
 ENERGY DISSIPATED = 0 JOULES ( 0 FT-LB)

### VEHICLE #2

TOTAL 29 KPH ( 18 MPH)  
 LONGITUDINAL -14 KPH ( -9 MPH)  
 LATITUDINAL 25 KPH ( 15 MPH)  
 PDOF ANGLE -60 DEGREES  
 ENERGY DISSIPATED = 122776 JOULES ( 90543 FT-LB)

## DAMAGE DATA

	VEHICLE #1	VEHICLE #2
SIZE CATEGORY	11	6
STIFFNESS CATEGORY	0	6
VEHICLE WEIGHT	***** KGS (2204586 LBS) *	2154 KGS ( 4749 LBS)
CDC	BARRIER	10LFEW5
PDOF ANGLE	0 DEGREES *	-60 DEGREES
CRUSH LENGTH	0 CM. ( 0 IN.) *	122 CM. ( 48 IN.)
C1	0 CM. ( 0 IN.) *	0 CM. ( 0 IN.)
C2	0 CM. ( 0 IN.) *	11 CM. ( 4 IN.)
C3	0 CM. ( 0 IN.) *	52 CM. ( 20 IN.)
C4	0 CM. ( 0 IN.) *	76 CM. ( 30 IN.)
C5	0 CM. ( 0 IN.) *	74 CM. ( 29 IN.)
C6	0 CM. ( 0 IN.) *	92 CM. ( 36 IN.)
D	0 CM. ( 0 IN.) *	190 CM. ( 75 IN.)
D'	0 CM. ( 0 IN.) *	209 CM. ( 82 IN.)

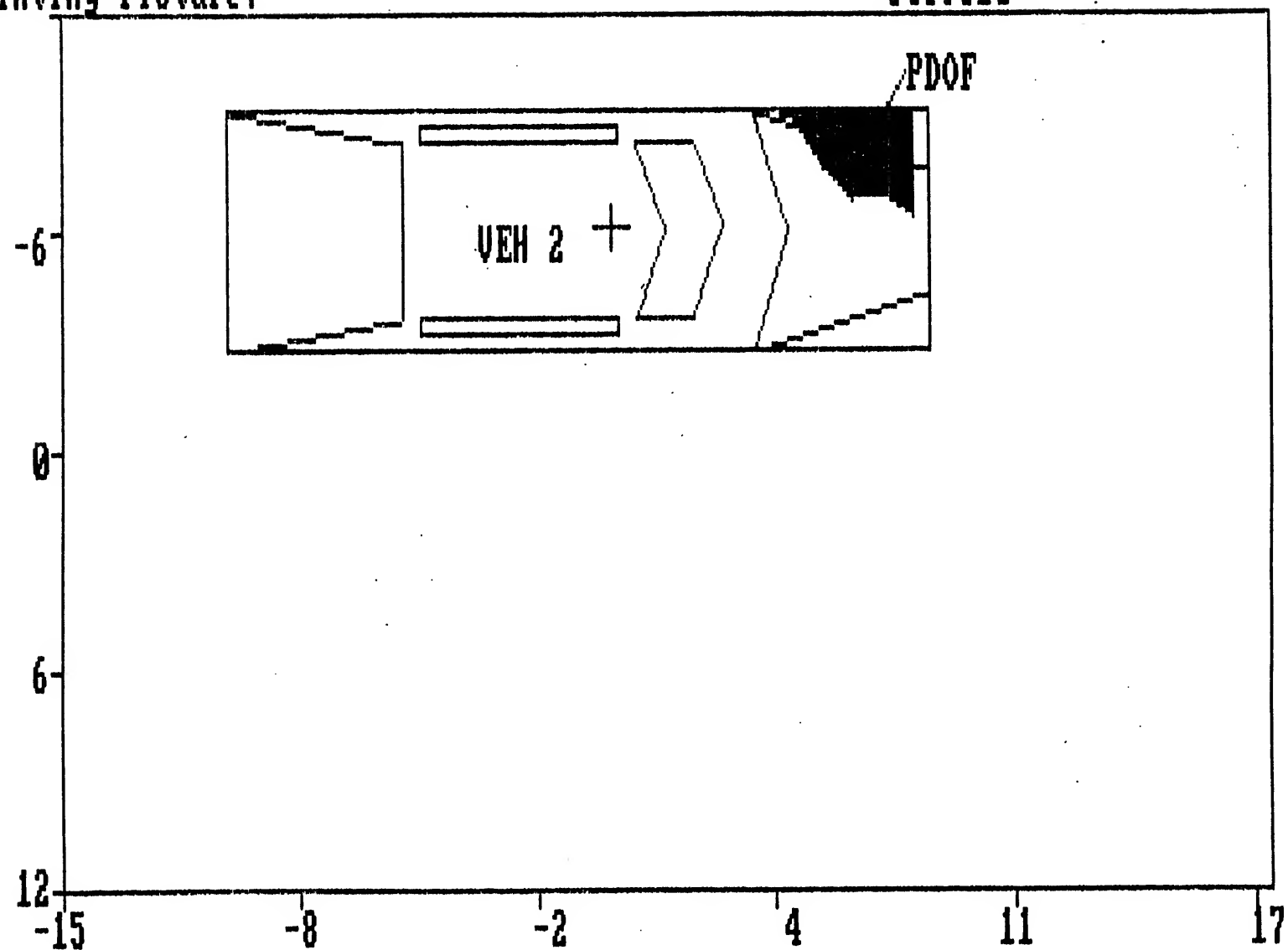
(\* INDICATES DEFAULT VALUE)

## DIMENSIONS AND INERTIAL PROPERTIES

	VEHICLE #1	VEHICLE #2
CG TO FRONT AXLE	127 CM. ( 50 IN.)	153 CM. ( 60 IN.)
CG TO REAR AXLE	127 CM. ( 50 IN.)	165 CM. ( 65 IN.)
TRACK	127 CM. ( 50 IN.)	162 CM. ( 64 IN.)
CG TO FRONT OF VEH	127 CM. ( 50 IN.)	265 CM. ( 104 IN.)
CG TO REAR OF VEH	-127 CM. ( -50 IN.)	-318 CM. (-125 IN.)
CG TO SIDE OF VEH	127 CM. ( 50 IN.)	101 CM. ( 40 IN.)
MOMENT OF INERTIA	***** KGS (***** LBS)	23685 KGS ( 52216 LBS)
VEHICLE MASS	2600 KGS ( 5732 LBS)	6 KGS ( 12 LBS)

Printing Picture:

SCI9510



DAMAGE DESCRIPTION

**EDCRASH**

**(DAMAGE ONLY ALGORITHM)**

S U M M A R Y    O F    E D C R A S H    R E S U L T S

Lic. User: [REDACTED]    S/N: [REDACTED]    Version: 4.61

Date: [REDACTED] 1995

MESSAGES:

NO MESSAGES

VEHICLE # 1

IMPACT SPEED km/h		SPEED CHANGE km/h			BASIS FOR RESULTS
FWD	LAT	TOTAL	LONG.	LATERAL	
N/A	N/A	N/A	N/A	N/A	SPINOUT TRAJECTORIES AND CONSERVATION OF LINEAR MOMENTUM
N/A	N/A	N/A	N/A	N/A	SPINOUT TRAJECTORIES AND DAMAGE
		39.5	-38.9	-6.9	DAMAGE DATA ONLY

VEHICLE # 2

IMPACT SPEED km/h		SPEED CHANGE km/h			BASIS FOR RESULTS
FWD	LAT	TOTAL	LONG.	LATERAL	
N/A	N/A	N/A	N/A	N/A	SPINOUT TRAJECTORIES AND CONSERVATION OF LINEAR MOMENTUM
N/A	N/A	N/A	N/A	N/A	SPINOUT TRAJECTORIES AND DAMAGE
		31.8	-15.9	27.6	DAMAGE DATA ONLY



SUMMARY OF DAMAGE DATA  
(NOTE: '\*\*\*' indicates default value)

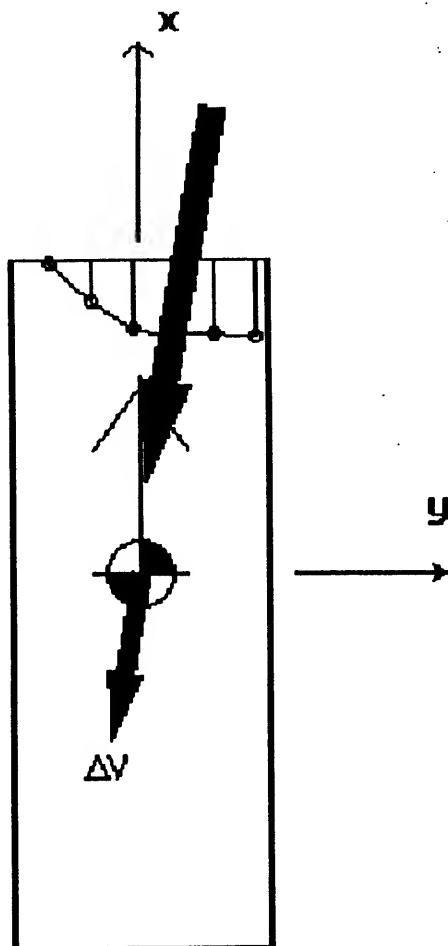
	Vehicle #1	Vehicle #2
CLASS / STIFFNESS CATEGORIES	3 / 9	6 / 6
WEIGHT	1738.0 kg	2154.0 kg
CDC	12FDEW3	10LFEW4
DAMAGE WIDTH	146.0 cm	122.0 cm
CRUSH DEPTH 1	2.0 cm	0.0 cm
CRUSH DEPTH 2	29.0 cm	11.0 cm
CRUSH DEPTH 3	49.0 cm	52.0 cm
CRUSH DEPTH 4	55.0 cm	76.0 cm
CRUSH DEPTH 5	53.0 cm	74.0 cm
CRUSH DEPTH 6	55.0 cm	92.0 cm
DAMAGE MIDPOINT OFFSET	10.0 cm	190.0 cm
DAMAGE ENERGY	133611.5 Joules	122744.7 Joules
MAGNITUDE OF PRINCIPAL FORCE	464791.8 N	280464.5 N
DIRECTION OF PRINCIPAL FORCE	10.0 deg	-60.0 deg
MOMENT ARM OF PRINCIPAL FORCE	-7.2 cm	147.9 cm
DAMAGE CENTROID	28.5 cm	209.4 cm

DIMENSIONAL, INERTIAL AND CRUSH STIFFNESS PROPERTIES  
(NOTE: '\*\*\*' indicates default value)

	Vehicle #1		Vehicle #2	
CG TO FRONT AXLE	130.3 cm	**	152.7 cm	**
CG TO REAR AXLE	141.0 cm	**	165.4 cm	**
TRACKWIDTH	149.6 cm	**	161.5 cm	**
YAW MOMENT OF INERTIA	3724.3 kg-m <sup>2</sup>	**	5872.4 kg-m <sup>2</sup>	**
MASS	1735.1 kg		2150.4 kg	
BODY LENGTH FROM CG TO FRONT	228.1 cm	**	264.7 cm	**
BODY LENGTH FROM CG TO REAR	-270.3 cm	**	-318.0 cm	**
BODY OVERALL WIDTH	184.4 cm	**	202.7 cm	**

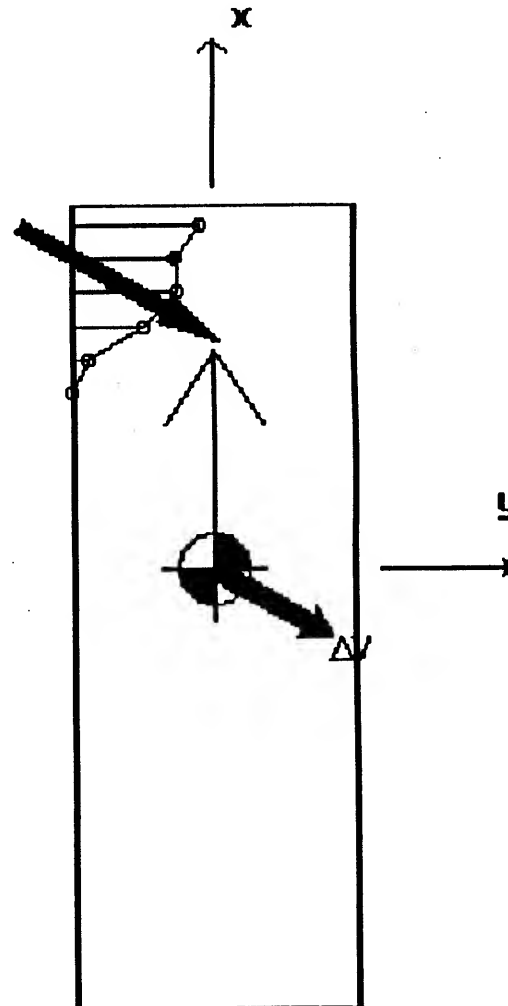
CRUSH STIFFNESSES:	A	B	A	B
	lb/in	lb/in <sup>2</sup>	lb/in	lb/in <sup>2</sup>
ZONE 1	314.3	87.4	176.5 **	47.1 **
ZONE 2	314.3	87.4	176.5 **	47.1 **
ZONE 3	314.3	87.4	176.5 **	47.1 **
ZONE 4	314.3	87.4	176.5 **	47.1 **
ZONE 5	314.3	87.4	176.5 **	47.1 **

Vehicle No. 1



CDC/PDOF: 12FDEW3 10.0 deg  
Max Impact Force: 464792 N

Vehicle No. 2

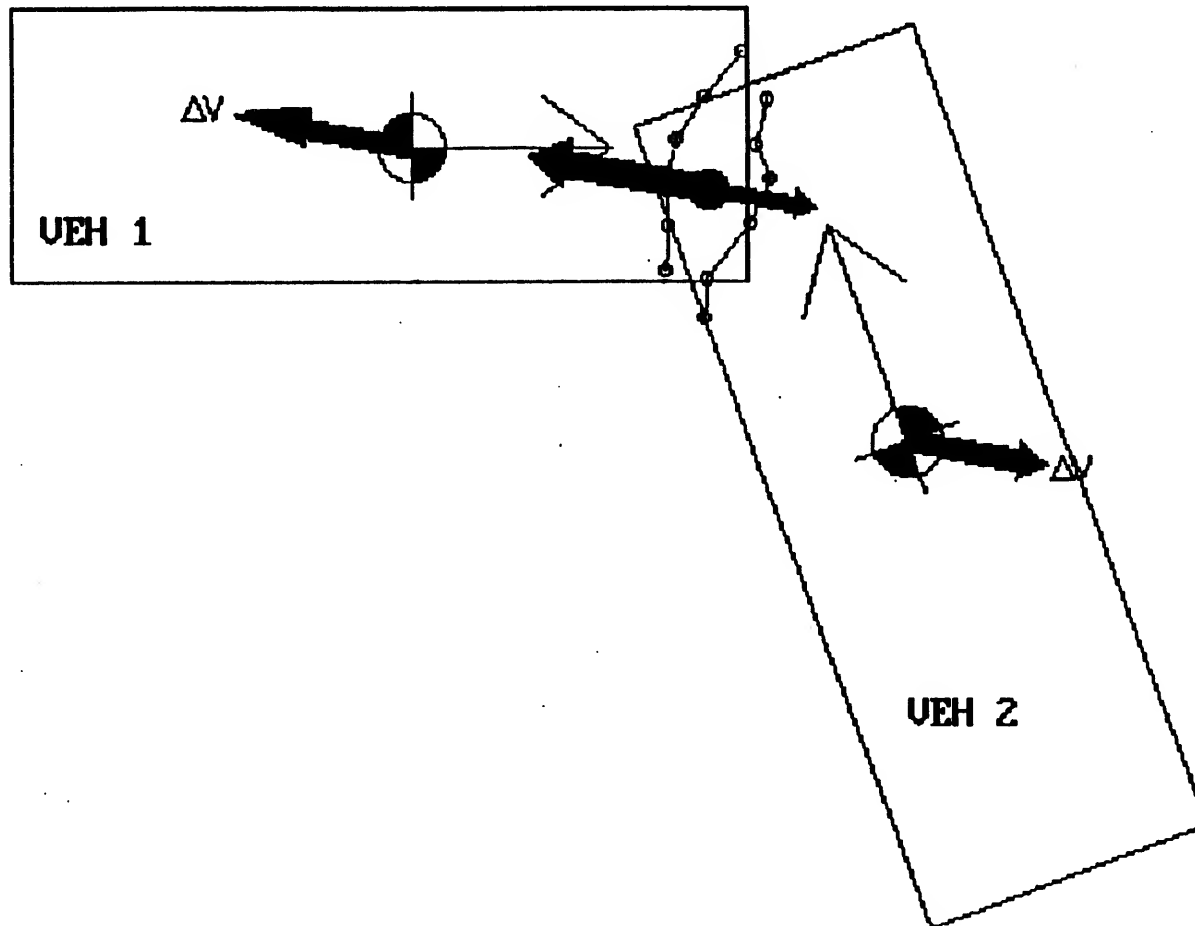


CDC/PDOF: 10LFEW4 -60.0 deg  
Max Impact Force: 280464 N



EDCRASH  
Damage Profiles

	Veh #1	Veh #2
Delta-U (km/h):		
X	-38.9	-15.9
Y	-6.9	27.6
Tot	39.5	31.8
Crush Data (cm):		
W	146.0	122.0
D	10.0	190.0
C1	2.0	0.0
C2	29.0	11.0
C3	49.0	52.0
C4	55.0	76.0
C5	53.0	74.0
C6	55.0	92.0



EDCRASH  
At Impact

	Veh #1	Veh #2
Delta-U (km/h)		
(BASIS: Damage)		
X	-38.9	-15.9
Y	-6.9	27.6
Tot	39.5	31.8
PDOF	10.0	-60.0

UNITS: km/h,m,deg

(NO SCENE DATA)

**TRC VECTOR ANALYSIS ITERATIONS**

PDOF & Delta V Estimation From At Impact Heading Angles, Slip, and Momentum

Case Number: 95-10

Vehicle Numbers: 1 and 2

(Both Vehicles Must Be Tracking Or CRASH 3 Slip Angle(s) Estimated)  
(Neither Vehicle May Be Backing)

(If The Back Of A Vehicle Is Involved, Its Speed Must Be Set To Zero)

(Some Configurations Involving Heavy Trucks Give Erroneous Results)

Vector Analysis Area	GV27(V1)	GV28(V2)		
Ln. Axis Heading Angle	290	183		
CG Heading Angle	290	183		
CRASH 3 Slip Angle	0	0		
Weight-Cargo	34	0		
Weight-Vehicle Curb Wt	1529	1899		
Weight-Passenger(s)	175	255		
Weight-Total	1738	2154		
Estimated Speed	89	16		
Momentum	154682	34464		
PDOF (Degrees)	11	-62	91	STM
PDOF (Clock Direction)	12	10		
Theoretical Delta V	52.5	42.4		
Theoretical Common Vel.		38.1	Post-Crash CG Heading	277

PDOF & Delta V Estimation From At Impact Heading Angles, Slip, and Momentum

Case Number: 95-10

Vehicle Numbers: 1 and 2

(Both Vehicles Must Be Tracking Or CRASH 3 Slip Angle(s) Estimated)  
(Neither Vehicle May Be Backing)

(If The Back Of A Vehicle Is Involved, Its Speed Must Be Set To Zero)

(Some Configurations Involving Heavy Trucks Give Erroneous Results)

Vector Analysis Area	GV27(V1)	GV28(V2)		
Ln. Axis Heading Angle	290	183		
CG Heading Angle	290	183		
CRASH 3 Slip Angle	0	0		
Weight-Cargo	34	0		
Weight-Vehicle Curb Wt	1529	1899		
Weight-Passenger(s)	175	255		
Weight-Total	1738	2154		
Estimated Speed	89	24		
Momentum	154682	51696		
PDOF (Degrees)	16	-57	91	STM
PDOF (Clock Direction)	1	10		
Theoretical Delta V	54.6	44.1		
Theoretical Common Vel.		38.0	Post-Crash CG Heading	270

## PDOF &amp; Delta V Estimation From At Impact Heading Angles, Slip, and Momentum

Case Number: 95-10

Vehicle Numbers: 1 and 2

(Both Vehicles Must Be Tracking Or CRASH 3 Slip Angle(s) Estimated)

(Neither Vehicle May Be Backing)

(If The Back Of A Vehicle Is Involved, Its Speed Must Be Set To Zero)

(Some Configurations Involving Heavy Trucks Give Erroneous Results)

Vector Analysis Area	GV27(V1)	GV28(V2)		
Ln. Axis Heading Angle	290	183		
CG Heading Angle	290	183		
CRASH 3 Slip Angle	0	0		
Weight-Cargo	34	0		
Weight-Vehicle Curb Wt	1529	1899		
Weight-Passenger(s)	175	255		
Weight-Total	1738	2154		
Estimated Speed	89	32		
Momentum	154682	68928		
PDOF (Degrees)	21	-52	██████/91	STM
PDOF (Clock Direction)	1	10		
Theoretical Delta V	57.0	46.0		
Theoretical Common Vel.		38.5	Post-Crash CG Heading	264

## PDOF &amp; Delta V Estimation From At Impact Heading Angles, Slip, and Momentum

Case Number: 95-10

Vehicle Numbers: 1 and 2

(Both Vehicles Must Be Tracking Or CRASH 3 Slip Angle(s) Estimated)

(Neither Vehicle May Be Backing)

(If The Back Of A Vehicle Is Involved, Its Speed Must Be Set To Zero)

(Some Configurations Involving Heavy Trucks Give Erroneous Results)

Vector Analysis Area	GV27(V1)	GV28(V2)		
Ln. Axis Heading Angle	290	183		
CG Heading Angle	290	183		
CRASH 3 Slip Angle	0	0		
Weight-Cargo	34	0		
Weight-Vehicle Curb Wt	1529	1899		
Weight-Passenger(s)	175	255		
Weight-Total	1738	2154		
Estimated Speed	97	16		
Momentum	168586	34464		
PDOF (Degrees)	10	-63	██████/91	STM
PDOF (Clock Direction)	12	10		
Theoretical Delta V	56.9	45.9		
Theoretical Common Vel.		41.6	Post-Crash CG Heading	278

PDOF & Delta V Estimation From At Impact Heading Angles, Slip, and Momentum

Case Number: 95-10

Vehicle Numbers: 1 and 2

(Both Vehicles Must Be Tracking Or CRASH 3 Slip Angle(s) Estimated)

(Neither Vehicle May Be Backing)

(If The Back Of A Vehicle Is Involved, Its Speed Must Be Set To Zero)

(Some Configurations Involving Heavy Trucks Give Erroneous Results)

Vector Analysis Area	GV27(V1)	GV28(V2)		
Ln. Axis Heading Angle	290	183		
CG Heading Angle	290	183		
CRASH 3 Slip Angle	0	0		
Weight-Cargo	34	0		
Weight-Vehicle Curb Wt	1529	1899		
Weight-Passenger(s)	175	255		
Weight-Total	1738	2154		
Estimated Speed	97	24		
Momentum	168586	51696		
PDOF (Degrees)	15	-58	██████/91	STM
PDOF (Clock Direction)	1	10		
Theoretical Delta V	59.0	47.6		
Theoretical Common Vel.		41.4	Post-Crash CG Heading	272

PDOF & Delta V Estimation From At Impact Heading Angles, Slip, and Momentum

Case Number: 95-10

Vehicle Numbers: 1 and 2

(Both Vehicles Must Be Tracking Or CRASH 3 Slip Angle(s) Estimated)

(Neither Vehicle May Be Backing)

(If The Back Of A Vehicle Is Involved, Its Speed Must Be Set To Zero)

(Some Configurations Involving Heavy Trucks Give Erroneous Results)

Vector Analysis Area	GV27(V1)	GV28(V2)		
Ln. Axis Heading Angle	290	183		
CG Heading Angle	290	183		
CRASH 3 Slip Angle	0	0		
Weight-Cargo	34	0		
Weight-Vehicle Curb Wt	1529	1899		
Weight-Passenger(s)	175	255		
Weight-Total	1738	2154		
Estimated Speed	97	32		
Momentum	168586	68928		
PDOF (Degrees)	19	-54	██████/91	STM
PDOF (Clock Direction)	1	10		
Theoretical Delta V	61.3	49.4		
Theoretical Common Vel.		41.7	Post-Crash CG Heading	266

## TRC VECTOR ANALYSIS PROGRAM

PDOF (Direction of Principal Force) is assigned based on the vehicular crush. Heading Angles are assigned based on scene evidence and Police Accident Reported crash configurations. This program was created to enable researchers in the NASS CDS to assess the compatibility of their assigned vehicle PDOFs and heading angles. When two vehicles are involved in an impact, researchers were often times submitting PDOFs that were not compatible with their heading angle assignments, indicating a lack of understanding of basic vector analysis concepts. Subsequently, the TRC has used this program to help verify our field PDOF assignments by making logical changes in the reconstructed crash configuration and determining the affect these changes have on PDOF.

**Principal:** This program is based on the geometric triangle rule (i.e., the sum of the three angles of a triangle must equal 180 degrees). The direction of one vehicle's (e.g., the case vehicle or Vehicle #1) CG (i.e., Center of Gravity) forms one side of the triangle. The direction of the other vehicle's (e.g., Vehicle #2) CG forms a second side of the triangle. The third side of the triangle is then formed by each vehicle's respective PDOF because the forces are assumed to act collinear.

**Assumptions:** It is assumed that each vehicle's weight can be represented by a *"point-mass"*. It is assumed that the vector force acting on each vehicle goes through the center of gravity (i.e., CG) of the vehicle. Further, it is assumed that the vehicles move off together joined as one object. This program does not take into affect the mass reduction that occurs in other reconstruction programs since its primary purpose is to check the compatibility of the field determined PDOF and Heading Angle.

**Inputs:** Heading Angle, Slip Angle (*"Yaw"*), Weights (Curb Weight, Cargo Weight, and Weight of all occupants), and Speed

**Outputs:** This program's primary output is each vehicle's theoretical PDOF, presented in both degrees and CDC clock directions. Other outputs include a theoretical Delta V and a theoretical Common Velocity. The theoretical Delta V shows the maximum Delta V for the given speeds and weights assuming a dead center impact. For special crash investigation purposes, the last two outputs should be essentially ignored.

**Use:** The TRC uses this program on nonaxial collisions involving two vehicles to vary the *"less established inputs"* in order to determine what theoretical affect these changes have on our field observed PDOFs. The most solid input is the weights of the respective vehicles. Even though the cargo weight is rarely accurately known, its order of magnitude is such that in the vast majority of crashes its affect is minor. The next solid inputs are the vehicle's heading angle and slip angle. In most cases these are fairly well known from the available physical evidence. The least solid input is the vehicle's speed. The submitted iterations show the inputs and what variations to those inputs that the TRC took into consideration. The PDOF outcomes are then compared with our field observed PDOF and adjustments are made, if necessary, in our final coding.

**Purpose:** This program is but one more tool in the hands of a researcher aimed at providing the best data.



**Appendix C:**

**NASS CDS ACCIDENT FORM**



## ACCIDENT FORM

1. Primary Sampling Unit Number 10  
2. Case Number - Stratum 9510

### IDENTIFICATION

3. Number of General Vehicle Forms Submitted 02  
4. Date of Accident (Month, Day, Year) 19 5  
5. Time of Accident 2110

Code reported military time of accident.

NOTE: Midnight = 2400  
Unknown = 9999

### SPECIAL STUDIES - INDICATORS

Check (✓) each special study (SS15-SS18 below) that has been completed; code 1 for the checked special studies and 0 for the special studies not checked.

6. 0 SS15 Administrative Use  
7. 0 SS16 Pedestrian Crash Data Study  
(Data for this special study available in a separate file.)  
8. 0 SS17 Impact Fires  
9. 0 SS18 Unsafe Driver Actions  
10. 0 SS19

### NUMBER OF EVENTS

11. Number of Recorded Events in This Accident 02

Code the number of events which occurred in this accident.

### ACCIDENT EVENTS

For each event that occurred in the accident, code the lowest numbered vehicle in the left columns and the other involved vehicle or object in the right columns.

Accident Event Sequence Number	Vehicle Number	Class Of Vehicle	General Area of Damage	Vehicle Number or Object Contacted	Class Of Vehicle	General Area of Damage
12. <u>0 1</u>	13. <u>0 1</u>	14. <u>0 3</u>	15. <u>F</u>	16. <u>0 2</u>	17. <u>3 1</u>	18. <u>L</u>
19. <u>0 2</u>	20. <u>0 1</u>	21. <u>0 3</u>	22. <u>R</u>	23. <u>0 2</u>	24. <u>3 1</u>	25. <u>L</u>
26. <u>0 3</u>	27. <u>    </u>	28. <u>    </u>	29. <u>    </u>	30. <u>    </u>	31. <u>    </u>	32. <u>    </u>
33. <u>0 4</u>	34. <u>    </u>	35. <u>    </u>	36. <u>    </u>	37. <u>    </u>	38. <u>    </u>	39. <u>    </u>
40. <u>0 5</u>	41. <u>    </u>	42. <u>    </u>	43. <u>    </u>	44. <u>    </u>	45. <u>    </u>	46. <u>    </u>

IF GREATER THAN FIVE EVENTS, CONTINUE CODING ON THE ACCIDENT EVENT SUPPLEMENT

## CODES FOR CLASS OF VEHICLE

- |   |  |
|---|--|
| <p>(00) Not a motor vehicle</p> <p>(01) Subcompact/mini (wheelbase &lt; 254 cm)</p> <p>(02) Compact (wheelbase ≥ 254 but &lt; 265 cm)</p> <p>(03) Intermediate (wheelbase ≥ 265 but &lt; 278 cm) ←</p> <p>(04) Full size (wheelbase ≥ 278 but &lt; 291 cm)</p> <p>(05) Largest (wheelbase ≥ 291 cm)</p> <p>(09) Unknown passenger car size</p> <p>(14) Compact utility vehicle</p> <p>(15) Large utility vehicle (≤ 4,500 kgs GVWR)</p> <p>(16) Utility station wagon (≤ 4,500 kgs GVWR)</p> <p>(19) Unknown utility type</p> <p>(20) Minivan (≤ 4,500 kgs GVWR)</p> <p>(21) Large van (≤ 4,500 kgs GVWR)</p> <p>(24) Van Based school bus (≤ 4,500 kgs GVWR)</p> <p>(28) Other van type (≤ 4,500 kgs GVWR)</p> <p>(29) Unknown van type (≤ 4,500 kgs GVWR)</p> <p>(30) Compact pickup truck (≤ 4,500 kgs GVWR)</p> | <p>(31) Large pickup truck (≤ 4,500 kgs GVWR)</p> <p>(38) Other pickup truck (≤ 4,500 kgs GVWR)</p> <p>(39) Unknown pickup truck type (≤ 4,500 kgs GVWR)</p> <p>(45) Other light truck (≤ 4,500 kgs GVWR)</p> <p>(48) Unknown light truck type (≤ 4,500 kgs GVWR)</p> <p>(49) Unknown light vehicle type</p> <p>(50) School bus (excludes van based) (&gt; 4,500 kgs GVWR)</p> <p>(58) Other bus (&gt; 4,500 kgs GVWR)</p> <p>(59) Unknown bus type</p> <p>(60) Truck (&gt; 4,500 kgs GVWR)</p> <p>(67) Tractor without trailer</p> <p>(68) Tractor-trailer(s)</p> <p>(78) Unknown medium/heavy truck type</p> <p>(79) Unknown light/medium/heavy truck type</p> <p>(80) Motored cycle</p> <p>(90) Other vehicle</p> <p>(99) Unknown</p> |
|---|--|

## CODES FOR GENERAL AREA OF DAMAGE (GAD)

- |  |   |  |  |
|--|---|--|--|
| <p>CDS APPLICABLE<br/>AND OTHER<br/>VEHICLES</p> | <p>(O) Not a motor vehicle</p> <p>(N) Noncollision</p> <p>(F) Front</p> | <p>(R) Right side</p> <p>(L) Left side</p> <p>(B) Back</p> | <p>(T) Top</p> <p>(U) Undercarriage</p> <p>(9) Unknown</p> |
|--|---|--|--|
- 
- |  |   |  |  |
|--|---|--|--|
| <p>TDC<br/>APPLICABLE<br/>VEHICLES</p> | <p>(O) Not a motor vehicle</p> <p>(N) Noncollision</p> <p>(F) Front</p> <p>(R) Right side</p> | <p>(L) Left side</p> <p>(B) Back of unit with cargo area<br/>(rear of trailer or straight truck)</p> <p>(D) Back (rear of tractor)</p> | <p>(C) Rear of cab</p> <p>(V) Front of cargo area</p> <p>(T) Top</p> <p>(U) Undercarriage</p> <p>(9) Unknown</p> |
|--|---|--|--|

## CODES FOR VEHICLE NUMBER OR OBJECT CONTACTED

(01-30) — Vehicle Number

### Noncollision

- (31) Overturn — rollover (excludes end-over-end)
- (32) Rollover — end-over-end
- (33) Fire or explosion
- (34) Jackknife
- (35) Other intraunit damage (specify): \_\_\_\_\_

(36) Noncollision injury

(38) Other noncollision (specify): \_\_\_\_\_

(39) Noncollision — details unknown

### Collision With Fixed Object

- (41) Tree (≤ 10 cm in diameter)
- (42) Tree (> 10 cm in diameter)
- (43) Shrubbery or bush
- (44) Embankment
- (45) Breakaway pole or post (any diameter)

### Nonbreakaway Pole or Post

- (50) Pole or post (≤ 10 cm in diameter)
- (51) Pole or post (> 10 cm but ≤ 30 cm in diameter)
- (52) Pole or post (> 30 cm in diameter)
- (53) Pole or post (diameter unknown)

(54) Concrete traffic barrier

(55) Impact attenuator

(56) Other traffic barrier (includes guardrail)  
(specify): \_\_\_\_\_

(57) Fence

(58) Wall

(59) Building

(60) Ditch or culvert

(61) Ground

(62) Fire hydrant

(63) Curb

(64) Bridge

(68) Other fixed object (specify): \_\_\_\_\_

(69) Unknown fixed object

### Collision with Nonfixed Object

- (70) Passenger car, light truck, van, or other vehicle not in-transport
- (71) Medium/heavy truck or bus not in-transport
- (72) Pedestrian
- (73) Cyclist or cycle
- (74) Other nonmotorist or conveyance

(75) Vehicle occupant

(76) Animal

(77) Train

(78) Trailer, disconnected in transport

(79) Object fell from vehicle in-transport

(88) Other nonfixed object (specify): \_\_\_\_\_

(89) Unknown nonfixed object

(98) Other event (specify): \_\_\_\_\_

(99) Unknown event or object

**Appendix D:**

**NASS CDS VEHICLE FORMS: CASE VEHICLE**



## GENERAL VEHICLE FORM

<p>1. Primary Sampling Unit Number <u>10</u></p> <p>2. Case Number - Stratum <u>9510</u></p> <p>3. Vehicle Number <u>01</u></p> <p><b>VEHICLE IDENTIFICATION</b></p> <p>4. Vehicle Model Year <u>94</u> Code the last two digits of the model year (99) Unknown</p> <p>5. Vehicle Make (specify): <u>PONTIAC</u> Applicable codes are found in your NASS Data Collection, Coding and Editing Manual. (99) Unknown</p> <p>6. Vehicle Model (specify): <u>GRANDPRIX SE 020</u> Applicable codes are found in your NASS Data Collection, Coding and Editing Manual. (999) Unknown</p> <p>7. Body Type <u>04</u> Note: Applicable codes may be found on the back of this page.</p> <p>8. Vehicle Identification Number <u>1G2WJ5213RF</u> 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 Left justify; Slash zeros and letter Z (0 and Z) No VIN—Code all zeros Unknown—Code all nines</p> <p>9. Vehicle Special Use (This Trip) <u>0</u> (0) No special use (1) Taxi (2) Vehicle used as school bus (3) Vehicle used as other bus (4) Military (5) Police (6) Ambulance (7) Fire truck or car (8) Other (specify): (9) Unknown</p> <p><b>OFFICIAL RECORDS</b></p> <p>10. Police Reported Vehicle Disposition <u>1</u> (0) Not towed due to vehicle damage (1) Towed due to vehicle damage (9) Unknown</p> <p>11. Police Reported Travel Speed <u>999</u> Code to the nearest kmph (NOTE: 000 means less than 0.5 kmph) (160) 159.5 kmph and above (999) Unknown  ____ mph X 1.6093 = ____ kmph</p>	<p>12. Speed Limit <u>089</u> (000) No statutory limit Code posted or statutory speed limit in kmph (999) Unknown <u>55</u> mph X 1.6093 = <u>88.5</u> kmph</p> <p>13. Police Reported Alcohol Presence For Driver <u>0</u> (0) No alcohol present (1) Yes alcohol present (7) Not reported (8) No driver present (9) Unknown</p> <p>14. Alcohol Test Result For Driver <u>96</u> Code actual value (decimal implied before first digit—0.xx) (95) Test refused (96) None given (97) AC test performed, results unknown (98) No driver present (99) Unknown Source: <u>PAR</u></p> <p>15. Police Reported Other Drug Presence For Driver <u>0</u> (0) No other drug(s) present (1) Yes other drug(s) present (7) Not reported (8) No driver present (9) Unknown</p> <p>16. Other Drug Specimen Test Result For Driver <u>0</u> (0) No specimen test given (1) Drug(s) not found in specimen (2) Drug(s) found in specimen, (specify):  (3) Specimen test given, results unknown or not obtained (8) No driver present (9) Unknown if specimen test given</p> <p>17. Driver's Zip Code <u>[REDACTED]</u> (00001) Driver not a resident of U.S. or territories Code actual 5-digit zip code (99998) No driver present (99999) Unknown</p> <p>18. Driver's Race/Ethnic Origin <u>1</u> (1) White (non-Hispanic) (2) Black (non-Hispanic) (3) White (Hispanic) (4) Black (Hispanic) (5) American Indian, Eskimo or Aleut (6) Asian or Pacific Islander (7) Other (specify):  (8) No driver present (9) Unknown</p>
--	--

# CODES FOR BODY TYPE

## CDS APPLICABLE VEHICLES

### Automobiles

- (01) Convertible (excludes sun-roof, t-bar)
- (02) 2-door sedan, hardtop, coupe
- (03) 3-door/2-door hatchback
- (04) 4-door sedan, hardtop
- (05) 5-door/4-door hatchback
- (06) Station wagon (excluding van and truck based)
- (07) Hatchback, number of doors unknown
- (08) Other automobile type (specify): \_\_\_\_\_
- (09) Unknown automobile type

### Automobile Derivatives

- (10) Auto based pickup (includes El Camino, Caballero, Ranchero, Brat, and Rabbit pickup)
- (11) Auto based panel (cargo station wagon, auto based ambulance/hearse)
- (12) Large limousine - more than four side doors or stretched chassis
- (13) Three-wheel automobile or automobile derivative

### Utility Vehicles ( $\leq 4,500$ kgs GVWR)

- (14) Compact utility (Jeep CJ-2 - CJ-7, Scrambler, Golden Eagle, Renegade, Laredo, Wrangler, Cherokee [84 and after], Dispatcher, Raider, Bronco II, Bronco [76 and before], Explorer, S-10 Blazer, Geo Tracker, Bravada, S-15 Jimmy, Thing, Pathfinder, Trooper, Trooper II, Rodeo, Amigo, Navajo, 4-Runner, Montero, Passport, Samurai, Sidekick, Rocky)
- (15) Large utility (includes Jeep Cherokee [83 and before], Ramcharger, Trailduster, Bronco-fullsize [78 and after], fullsize Blazer, fullsize Jimmy, Hummer, Landcruiser, Rover, Scout, Yukon)
- (16) Utility station wagon (Chevy Suburban, GMC Suburban, Travelall, Grand Wagoneer, includes suburban limousine)
- (19) Utility, unknown body type

### Van Based Light Trucks ( $\leq 4,500$ kgs GVWR)

- (20) Minivan (Town and Country, Caravan, Grand Caravan, Voyager, Grand Voyager, Mini-Ram, Vista, Aerostar, Windstar, Villager, Lumina APV, Trans Sport, Silhouette, Astro, Safari, Toyota Van, Toyota Minivan, Previa, Nissan Minivan, Quest, Mitsubishi Minivan, Expo Wagon, Vanagon/Camper.)
- (21) Large van (B150-B350, Sportsman, Royal, Maxiwagon, Ram, Tradesman, Voyager [83 and before], E150-E350, Econoline, Clubwagon, Chateau, G10-G30, Chevy Van, Beauville, Sport Van, G15-G35, Rally Van, Vandura.)
- (22) Step van or walk-in van ( $\leq 4,500$  kgs GVWR)
- (23) Van based motorhome ( $\leq 4,500$  kgs GVWR)
- (24) Van based school bus ( $\leq 4,500$  kgs GVWR)
- (25) Van based other bus ( $\leq 4,500$  kgs GVWR)
- (28) Other van type (Hi-Cube Van, Kary) (specify): \_\_\_\_\_
- (29) Unknown van type

### Light Conventional Trucks (Pickup style cab, $\leq 4,500$ kgs GVWR)

- (30) Compact pickup (D50, Colt P/U, Ram 50, Dakota, Arrow Pickup (foreign), Ranger, Courier, S-10, T-10, LUV, S-15, T-15, Sonoma, Datsun/Nissan Pickup, P'up, Mazda Pickup, Toyota Pickup, Mitsubishi Pickup)
- (31) Large Pickup (Jeep Pickup, Comanche, Ram Pickup, D100-D350, W100-W350, F100-F350, C10-C35, K10-K35, R10-R35, V10-V35, Silverado, Sierra, R100-R500, T100)

- (32) Pickup with slide-in camper
- (33) Convertible pickup
- (39) Unknown pickup style light conventional truck type

### Other Light Trucks ( $\leq 4,500$ kgs GVWR)

- (40) Cab chassis based (includes rescue vehicles, light stake, dump, and tow truck)
- (41) Truck based panel
- (42) Light truck based motorhome (chassis mounted)
- (45) Other light conventional truck type
- (48) Unknown light truck type
- (49) Unknown light vehicle type (automobile, utility, van, or light truck)

## OTHER VEHICLES

### Buses (Excludes Van Based)

- (50) School bus (designed to carry students, not cross country or transit)
- (58) Other bus type (e.g., transit, intercity, bus based motorhome) (specify): \_\_\_\_\_
- (59) Unknown bus type

### Medium/Heavy Trucks ( $> 4,500$ kgs GVWR)

- (60) Step van ( $> 4,500$  kgs GVWR)
- (61) Single unit straight truck ( $4,500$  kgs  $<$  GVWR  $\leq 8,850$  kgs)
- (62) Single unit straight truck ( $8,850$  kgs  $<$  GVWR  $\leq 12,000$  kgs)
- (63) Single unit straight truck ( $> 12,000$  kgs GVWR)
- (64) Single unit straight truck, GVWR unknown
- (65) Medium/heavy truck based motorhome
- (67) Truck-tractor with no cargo trailer
- (68) Truck-tractor pulling one trailer
- (69) Truck-tractor pulling two or more trailers
- (70) Truck-tractor (unknown if pulling trailer)
- (78) Unknown medium/heavy truck type
- (79) Unknown truck type (light/medium/heavy)

### Motored Cycles (Does Not Include All-Terrain Vehicles/Cycles)

- (80) Motorcycle
- (81) Moped (motorized bicycle)
- (82) Three-wheel motorcycle or moped
- (88) Other motored cycle (minibike, motorscooter) (specify): \_\_\_\_\_
- (89) Unknown motored cycle type

### Other Vehicles

- (90) ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle)
- (91) Snowmobile
- (92) Farm equipment other than trucks
- (93) Construction equipment other than trucks
- (97) Other vehicle type
- (99) Unknown body type

## PRECRASH ENVIRONMENTAL DATA

19. Relation To Interchange Or Junction 3  
(0) Non-interchange area and non-junction  
(1) Interchange area related

*Non-Interchange junctions*

- (2) Intersection related  
(3) Driveway, alley access related  
(4) Other junction (specify) \_\_\_\_\_

(5) \_\_\_\_\_  
Unknown type of junction

(9) Unknown

20. Trafficway Flow 0  
(0) Not physically divided (two way traffic)  
(1) Divided trafficway-median strip without positive barrier  
(2) Divided trafficway-median strip with positive barrier  
(3) One way traffic  
(9) Unknown

21. Number Of Travel Lanes 7  
(1) One  
(2) Two  
(3) Three  
(4) Four  
(5) Five  
(6) Six  
(7) Seven or more  
(9) Unknown

22. Roadway Alignment 1  
(1) Straight  
(2) Curve right  
(3) Curve left  
(9) Unknown

23. Roadway Profile 1  
(1) Level  
(2) Uphill grade (>2%)  
(3) Hill crest  
(4) Downhill grade (>2%)  
(5) Sag  
(9) Unknown

24. Roadway Surface Type 1  
(1) Concrete  
(2) Bituminous (asphalt)  
(3) Brick or block  
(4) Slag, gravel, or stone  
(5) Dirt  
(8) Other (specify): \_\_\_\_\_  
(9) Unknown

25. Roadway Surface Condition 2

- (1) Dry  
(2) Wet  
(3) Snow or slush  
(4) Ice  
(5) Sand, dirt, or oil  
(8) Other (specify): \_\_\_\_\_  
(9) Unknown

26. Light Conditions 3

- (1) Daylight  
(2) Dark  
(3) Dark, but lighted  
(4) Dawn  
(5) Dusk  
(9) Unknown

27. Atmospheric Conditions 0

- (0) No adverse atmospheric-related driving conditions  
(1) Rain  
(2) Sleet/hail  
(3) Snow  
(4) Fog  
(5) Rain and fog  
(6) Sleet and fog  
(7) Other (e.g., smog, smoke, blowing sand or dust, etc.) (specify): \_\_\_\_\_  
(9) Unknown

28. Traffic Control Device 0

- (0) No traffic control(s)  
(1) Traffic control signal (not RR crossing)

*Regulatory*

- (2) Stop sign  
(3) Yield sign  
(4) School zone sign  
(5) Other regulatory sign (specify): \_\_\_\_\_

(6) \_\_\_\_\_  
Warning sign (not RR crossing)

- (7) Unknown sign  
(8) Miscellaneous/other controls including RR controls (specify): \_\_\_\_\_

(9) Unknown

29. Traffic Control Device Functioning 0

- (0) No traffic control device  
(1) Traffic control device not functioning (specify): \_\_\_\_\_  
(2) Traffic control device functioning properly  
(9) Unknown

**PRECRASH DRIVER RELATED DATA**

30. Driver's Distraction/Inattention To Driving (Prior To Recognition Of Critical Event) 01
- (00) No driver present  
(01) Attentive or not distracted  
(02) Looked but did not see
- Distractions*
- (03) By other occupant(s), (specify): \_\_\_\_\_
- (04) By moving object in vehicle (specify): \_\_\_\_\_
- (05) While talking or listening to cellular phone (specify location and type of phone): \_\_\_\_\_
- (06) While dialing cellular phone (specify location and type of phone): \_\_\_\_\_
- (07) While adjusting climate controls  
(08) While adjusting radio, cassette, CD (specify): \_\_\_\_\_
- (09) While using other device/object in vehicle (specify): \_\_\_\_\_
- (10) Sleepy or fell asleep  
(11) Distracted by outside person, object, or event (specify): \_\_\_\_\_
- (12) Eating or drinking  
(13) Smoking related  
(97) Distracted/inattentive, details unknown  
(98) Other, distraction (specify): \_\_\_\_\_
- (99) Unknown
31. Pre-Event Movement (Prior to Recognition of Critical Event) 01
- (00) No driver present  
(01) Going straight  
(02) Decelerating in traffic lane  
(03) Accelerating in traffic lane  
(04) Starting in traffic lane  
(05) Stopped in traffic lane  
(06) Passing or overtaking another vehicle  
(07) Disabled or parked in travel lane  
(08) Leaving a parking position  
(09) Entering a parking position  
(10) Turning right  
(11) Turning left  
(12) Making a U-turn  
(13) Backing up (other than for parking position)  
(14) Negotiating a curve  
(15) Changing lanes  
(16) Merging  
(17) Successful avoidance maneuver to a previous critical event  
(97) Other (specify): \_\_\_\_\_
- (99) Unknown
32. Critical Precrash Event 72
- This Vehicle Loss of Control Due To:*
- (01) Blow out or flat tire  
(02) Stalled engine  
(03) Disabling vehicle failure (e.g., wheel fell off) (specify): \_\_\_\_\_
- (04) Non-disabling vehicle problem (e.g., hood flew up) (specify): \_\_\_\_\_
- (05) Poor road conditions (puddle, pot hole, ice, etc.) (specify): \_\_\_\_\_
- (06) Traveling too fast for conditions  
(08) Other cause of control loss (specify): \_\_\_\_\_
- (09) Unknown cause of control loss

***This Vehicle Traveling***

- (10) Over the lane line on left side of travel lane  
(11) Over the lane line on right side of travel lane  
(12) Off the edge of the road on the left side  
(13) Off the edge of the road on the right side  
(14) End departure  
(15) Turning left at intersection  
(16) Turning right at intersection  
(17) Crossing over (passing through) intersection  
(18) This vehicle decelerating  
(19) Unknown travel direction

***Other Motor Vehicle In Lane***

- (50) Other vehicle stopped  
(51) Traveling in same direction with lower steady speed  
(52) Traveling in same direction while decelerating  
(53) Traveling in same direction with higher speed  
(54) Traveling in opposite direction  
(55) In crossover  
(56) Backing  
(59) Unknown travel direction of other motor vehicle in lane

***Other Motor Vehicle Encroaching Into Lane***

- (60) From adjacent lane (same direction)—over left lane line  
(61) From adjacent lane (same direction)—over right lane line  
(62) From opposite direction—over left lane line  
(63) From opposite direction—over right lane line  
(64) From parking lane  
(65) From crossing street, turning into same direction  
(66) From crossing street, across path  
(67) From crossing street, turning into opposite direction  
(68) From crossing street, intended path not known  
(70) From driveway, turning into same direction  
(71) From driveway, across path  
(72) From driveway, turning into opposite direction  
(73) From driveway, intended path not known  
(74) From entrance to limited access highway  
(78) Encroachment by other vehicle—details unknown

***Pedestrian, Pedalcyclist, or Other Nonmotorist***

- (80) Pedestrian in roadway  
(81) Pedestrian approaching roadway  
(82) Pedestrian—unknown location  
(83) Pedalcyclist or other nonmotorist in roadway (specify): \_\_\_\_\_
- (84) Pedalcyclist or other nonmotorist approaching roadway, (specify): \_\_\_\_\_
- (85) Pedalcyclist or other nonmotorist—unknown location (specify): \_\_\_\_\_

***Object or Animal***

- (87) Animal in roadway  
(88) Animal approaching roadway  
(89) Animal—unknown location  
(90) Object in roadway  
(91) Object approaching roadway  
(92) Object—unknown location  
(98) Other critical precrash event (specify): \_\_\_\_\_
- (99) Unknown



33. Attempted Avoidance Maneuver 01

- (00) No driver present
- (01) No avoidance maneuver
- (02) Braking (no lockup)
- (03) Braking (lockup)
- (04) Braking (lockup unknown)
- (05) Releasing brakes
- (06) Steering left
- (07) Steering right
- (08) Braking and steering left
- (09) Braking and steering right
- (10) Accelerating
- (11) Accelerating and steering left
- (12) Accelerating and steering right
- (98) Other action (specify):

(99) Unknown

34. Pre-Impact Stability 1

- (0) No driver present
- (1) Tracking
- (2) Skidding longitudinally—rotation less than 30 degrees
- (3) Skidding laterally—clockwise rotation
- (4) Skidding laterally—counterclockwise rotation
- (7) Other vehicle loss-of-control (specify):

(9) Precrash stability unknown

35. Pre-Impact Location 1

- (0) No driver present
- (1) Stayed in original travel lane
- (2) Stayed on roadway but left original travel lane
- (3) Stayed on roadway, not known if left original travel lane
- (4) Departed roadway
- (5) Remained off roadway
- (6) Returned to roadway
- (7) Entered roadway
- (9) Unknown

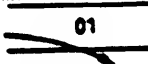





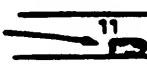


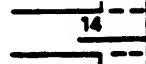


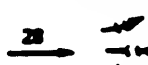




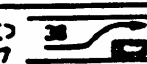
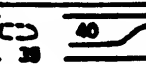
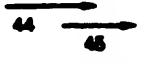


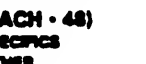
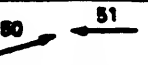


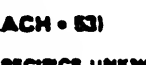








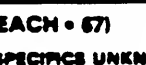


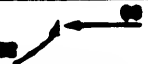
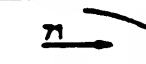
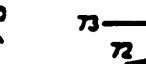


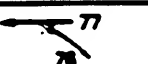



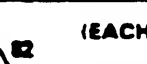

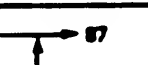




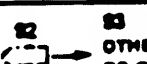

36. Accident Type 83

(Note: Applicable codes on back of this page)

- (00) No impact
- Code the number of the diagram that best describes the accident circumstance
- (98) Other accident type (specify):

(99) Unknown

**STOP HERE IF GV07 DOES NOT EQUAL 01 - 49**

Category	Configuration	ACCIDENT TYPES (Includes Intent)					
I Single Driver	A Right Roadside Departure	 01 DRIVE OFF ROAD	 02 CONTROL/ TRACTION LOSS	 03 AVOID COLLISION WITH VEH., PED., ANIM.	04 SPECIFICS OTHER	05 SPECIFICS UNKNOWN	
	B Left Roadside Departure	 06 DRIVE OFF ROAD	 07 CONTROL/ TRACTION LOSS	 08 AVOID COLLISION WITH VEH., PED., ANIM.	09 SPECIFICS OTHER	10 SPECIFICS UNKNOWN	
	C Forward Impact	 11 PARKED VEH.	 12 STA. OBJECT	 13 PEDESTRIAN/ ANIMAL	 14 END DEPARTURE	15 SPECIFICS OTHER	16 SPECIFICS UNKNOWN
II Same Trafficway Same Direction	D Rear-End	 20 STOPPED 21, 22, 23	 22 SLOWER 24, 25, 27	 24 DECEL. 26, 28, 31	 25 SPECIFICS OTHER	 26 SPECIFICS UNKNOWN	
	E Forward Impact	 34 CONTROL/ TRACTION LOSS	 35 CONTROL/ TRACTION LOSS	 36 AVOID COLLISION WITH VEH.	 37 AVOID COLLISION WITH OBJECT	38 SPECIFICS OTHER	39 SPECIFICS UNKNOWN
	F Sideswipe Angle	 44 SPECIFICS OTHER	 45 SPECIFICS OTHER	 46 SPECIFICS OTHER	 47 SPECIFICS OTHER	(EACH - 48) SPECIFICS OTHER	(EACH - 49) SPECIFICS UNKNOWN
III Same Trafficway Opposite Direction	G Head-On	 50 LATERAL MOVE	 51 SPECIFICS OTHER	 52 SPECIFICS UNKNOWN	 53 SPECIFICS UNKNOWN	 54 SPECIFICS UNKNOWN	
	H Forward Impact	 54 CONTROL/ TRACTION LOSS	 55 CONTROL/ TRACTION LOSS	 56 AVOID COLLISION WITH VEH.	 57 AVOID COLLISION WITH OBJECT	58 SPECIFICS OTHER	59 SPECIFICS UNKNOWN
	I Sideswipe Angle	 64 LATERAL MOVE	 65 SPECIFICS OTHER	 66 SPECIFICS UNKNOWN	 67 SPECIFICS UNKNOWN	 68 SPECIFICS UNKNOWN	 69 SPECIFICS UNKNOWN
IV Change Trafficway Vehicle Turning	J Turn Across Path	 69 INITIAL OPPOSITE DIRECTIONS	 70 INITIAL SAME DIRECTIONS	 71 SPECIFICS OTHER	 72 SPECIFICS UNKNOWN	 73 SPECIFICS UNKNOWN	
	K Turn Into Path	 74 TURN INTO SAME DIRECTION	 75 TURN INTO OPPOSITE DIRECTIONS	 76 SPECIFICS OTHER	 77 SPECIFICS UNKNOWN	 78 SPECIFICS UNKNOWN	 79 SPECIFICS UNKNOWN
V Intersecting Paths (Vehicle Damage)	L Straight Paths	 87 SPECIFICS OTHER	 88 SPECIFICS UNKNOWN	 89 SPECIFICS UNKNOWN	 90 SPECIFICS UNKNOWN	 91 SPECIFICS UNKNOWN	
VI Miscel laneous	M Backing Etc	 92 BACKING VEH.	 93 OTHER VEH. OR OBJECT	98 Other Accident Type 99 Unknown Accident Type 00 No Impact			

## OCCUPANT RELATED

37. Driver Presence in Vehicle 1

- (0) Driver not present  
(1) Driver present  
(9) Unknown

38. Number of Occupants This Vehicle 02  
(00-96) Code actual number of occupants for this vehicle  
(97) 97 or more  
(99) Unknown39. Number of Occupant Forms Submitted 02

## AIR BAG RELATED

40. Is this an AOPS Vehicle? 1

- (0) No (includes unknown)  
(1) Yes - researcher determined  
(2) VIN determined air bag system  
(3) VIN determined automatic (passive) belts  
(4) VIN determined air bag and automatic (passive) belts

41. Air Bag(s) Deployment, First Seat Frontal 6

- (0) Not equipped or not available  
(1) No air bags deployed

*Single Air Bag Vehicle*

- (2) Driver air bag deployed  
(3) Driver air bag, unknown if deployed

*Multiple Air Bag Vehicle*

- (4) Driver side only deployed  
(5) Passenger side only deployed  
(6) Driver and passenger side deployed  
(7) Driver and passenger side unknown if deployed  
(8) Air bag(s) deployed, details unknown  
(9) Unknown

42. Air Bag(s) Deployment, Other Than First Seat Frontal 0

- (0) Not equipped with an "other" air bag  
(1) Deployed during accident (as a result of impact)  
(2) Deployed inadvertently just prior to accident  
(3) Deployed, details unknown  
(4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)  
(5) Unknown if deployed  
(7) Nondeployed  
(9) Unknown

Specify type of "other" air bag present: \_\_\_\_\_

## VEHICLE WEIGHT ITEMS

43. Vehicle Curb Weight 1.530

Code weight to nearest 10 kilograms.

- (045) Less than 450 kilograms  
(610) 6,100 kilograms or more  
(999) Unknown

3370 lbs X .4536 = 1529 kgsSource: 94 44. Vehicle Cargo Weight 0.030

Code weight to nearest

10 kilograms.

- (000) Less than 5 kilograms  
(450) 4,500 kilograms or more  
(999) Unknown

75 lbs X .4536 = 34 kgs

Source: \_\_\_\_\_

## ROLLOVER DATA

45. Rollover 00

(00) No rollover (no overturning)

*Rollover (primarily about the longitudinal axis)*

- (01-16) Code the number of quarter turns  
(17) Rollover, 17 or more quarter turns (specify): \_\_\_\_\_  
(98) Rollover--end-over-end (i.e., primarily about the lateral axis)  
(99) Rollover (overturn), details unknown

46. Rollover Initiation Type 00

- (00) No rollover  
(01) Trip-over  
(02) Flip-over  
(03) Turn-over  
(04) Climb-over  
(05) Fall-over  
(06) Bounce-over  
(07) Collision with another vehicle  
(08) Other rollover initiation type specify): \_\_\_\_\_

- (98) Rollover--end-over-end  
(99) Unknown rollover initiation type

47. Location of Rollover Initiation 0

- (0) No rollover  
(1) On roadway  
(2) On shoulder--paved  
(3) On shoulder--unpaved  
(4) On roadside or divided trafficway median  
(8) Rollover--end-over-end  
(9) Unknown

48. Rollover Initiation Object Contacted 00

(Note: Applicable codes on back of page)

49. Location on Vehicle Where Initial Principal Tripping Force Is Applied 0

- (0) No rollover  
(1) Wheels/tires  
(2) Side plane  
(3) End plane  
(4) Undercarriage  
(5) Other location on vehicle (specify): \_\_\_\_\_

(6) Non-contact rollover forces (specify): \_\_\_\_\_

- (8) Rollover--end-over-end  
(9) Unknown

50. Direction of Initial Roll 0

- (0) No rollover  
(1) Roll right - primarily about the longitudinal axis  
(2) Roll left - primarily about the longitudinal axis  
(8) Rollover--end-over-end  
(9) Unknown roll direction

**VERRIDE/UNDERRIDE (THIS VEHICLE)**51. Front Override/Underride (this Vehicle) 052. Rear Override/Underride (this Vehicle) 0

- (0) No override/underride, or not an end-to-end impact between two CDS applicable vehicles, and no medium/heavy truck or bus underride

*Override (see specific CDC)**(Between 2 CDS applicable vehicles (Bodytype, GV07 = 1-49))*

- (1) 1st CDC  
(2) 2nd CDC  
(3) Other not automated CDC (specify):  
\_\_\_\_\_

*Underride (see specific CDC)**(Between 2 CDS applicable vehicles (Bodytype, GV07 = 1-49))*

- (4) 1st CDC  
(5) 2nd CDC  
(6) Other not automated CDC (specify):  
\_\_\_\_\_

- (7) Medium/heavy truck or bus override (of any configuration)  
(9) Unknown

**HEADING ANGLE AT IMPACT FOR HIGHEST DELTA V**

Values: (000)-(359) Code actual value

- (997) Noncollision  
(998) Impact with object  
(999) Unknown

53. Heading Angle For This Vehicle 29054. Heading Angle For Other Vehicle 183**RECONSTRUCTION DATA**55. Towed Trailing Unit 0

- (0) No towed unit  
(1) Yes—towed trailing unit  
(9) Unknown

56. Documentation of Trajectory Data for This Vehicle 1

- (0) No  
(1) Yes

57. Post Collision Condition of Tree or Pole (For Highest Delta V) 0

- (0) Not collision (for highest delta V) with tree or pole  
(1) Not damaged  
(2) Cracked/sheared  
(3) Tilted < 45 degrees  
(4) Tilted ≥ 45 degrees  
(5) Uprooted tree  
(6) Separated pole from base  
(7) Pole replaced  
(8) Other (specify):  
\_\_\_\_\_

(9) Unknown

**ACCIDENT RECONSTRUCTION PROGRAMS HIGHEST DELTA V**58. Basis for Total (Resultant) Delta V (highest) 01

- (00) No vehicle inspection

*Delta V Calculated*

- (01) Reconstruction program -damage only routine  
(02) Reconstruction program -damage and trajectory routine  
(03) Missing vehicle algorithm

*Delta V Not Calculated*

- (04) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.

*All vehicles within scope (CDC applicable) of reconstruction program but one of the collision conditions is beyond the scope of the reconstruction program or other acceptable reconstruction technique, regardless of adequacy of damage data.*

- (05) Rollover  
(06) Other non-horizontal forces  
(07) Sideswipe type damage  
(08) Severe override  
(09) Yielding object  
(10) Overlapping damage  
(11) All vehicle and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available, (specify):  
\_\_\_\_\_  
\_\_\_\_\_

(98) Other, (specify): \_\_\_\_\_

## COMPUTER GENERATED CRASH SEVERITY

59. Total Delta V

03636 Nearest kmph (highest)         Nearest kmph (secondary)

(NOTE: 000 means less than 0.5 kmph)  
(160) 159.5 kmph and above  
(999) Unknown

60. Longitudinal Component of Delta V

+036-36 Nearest kmph (highest)         Nearest kmph (secondary)

(NOTE:     000 means greater than  
-0.5 kmph and less than +0.5 kmph)  
(±160) ±159.5 kmph and above  
(  999) Unknown

Highest

61. Lateral Component of Delta V

+006-6 Nearest kmph (highest)         Nearest kmph (secondary)

(NOTE:     000 means greater than -0.5 kmph  
and less than +0.5 kmph)  
(±160) ±159.5 kmph and above  
(  999) Unknown

Highest

62. Energy Absorption

095.30095299 Nearest 100 joules (highest)         Nearest 100 joules (secondary)

(NOTE: 0000 means less than 50 joules)  
(9997) 999,650 joules or more  
(9999) Unknown

Highest

63. Impact Speed

998         Nearest kmph (highest)         Nearest kmph (secondary)

(NOTE: 000 means less than 0.5 kmph)  
(160) 159.5 kmph and above  
(998) Trajectory algorithm not run  
(999) Unknown

## DELTA V CONFIDENCE LEVEL

64. Confidence In Reconstruction Program Results (For Highest Delta V)

1

- (0) No reconstruction  
(1) Collision fits model — results appear reasonable  
(2) Collision fits model — results appear high  
(3) Collision fits model — results appear low  
(4) Borderline reconstruction — results appear reasonable

## OTHER SPEED ESTIMATE

65. Barrier Equivalent Speed

Highest

03737 Nearest kmph (highest)         Nearest kmph (secondary)

(NOTE: 000 means less than 0.5 kmph)  
(160) 159.5 kmph and above  
(999) Unknown

-37 Longitudinal

IS MISSING VEHICLE ALGORITHM APPLICABLE FOR THIS VEHICLE? [ ] YES ☒ NO

IF YES: IS A COMPLETED PROGRAM SUMMARY INCLUDED? [ ] YES [ ] NO

## ESTIMATED DELTA V

## VEHICLE INSPECTION

66. Estimated Highest Delta V (Researcher Determined)

(0) Reconstruction Delta V coded

*Estimated Delta V*

- (1) Less than 10 kmph
- (2)  $\geq 10$  kmph but  $< 25$  kmph
- (3)  $\geq 25$  kmph but  $< 40$  kmph
- (4)  $\geq 40$  kmph but  $< 55$  kmph
- (5)  $\geq 55$  kmph

*Other estimates of damage severity*

- (6) Minor
- (7) Moderate
- (8) Severe
- (9) Unknown

☐

67. Type of Vehicle Inspection

- (0) No inspection
- (1) Vehicle fully repaired-no damage evident
- (2) Partial inspection (specify): \_\_\_\_\_
- (3) Complete inspection

1

\*\*\* IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV67=0), \*\*\*

DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS

\*\*\* IF GV07 DOES NOT EQUAL 01-49, DO NOT COMPLETE \*\*\*

THE EXTERIOR VEHICLE, INTERIOR VEHICLE,  
OCCUPANT ASSESSMENT, AND OCCUPANT INJURY FORMS.

## EXTERIOR VEHICLE FORM

**NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM**

1. Primary Sampling Unit Number	<u>10</u>	3. Vehicle Number	<u>01</u>
2. Case Number - Stratum	<u>9510</u>		

## VEHICLE IDENTIFICATION

VIN 1G2WJ52M3RF \_\_\_\_\_ Model Year 94  
Vehicle Make (specify): Pontiac Vehicle Model (specify): GRAND PRIX SE

## LOCATOR

**Locate the end of the damage with respect to the vehicle longitudinal center line or bumper corner for end impacts or an undamaged axle for side impacts.**

Specific Impact No.	Location of Direct Damage	Location of Field L	Location of Max Crush
01	Ⓡ BC OVER 126	ACROSS FRONT END	C-6
02	starts 51cm behind RR axle	BEHIND 25cm behind RR axle	10cm behind RR

### CRUSH PROFILE IN CENTIMETERS

NOTES: Identify the plane at which the C-measurements are taken (e.g., at bumper, above bumper, at sill, above sill, etc.) and label adjustments (e.g., free space).

**Measure C1 to C6 from driver to passenger side in front or rear impacts and rear to front in side impacts.**

Free space value is defined as the distance between the baseline and the original body contour taken at the individual C locations. This may include the following: bumper lead, bumper taper, side protrusion, side taper, etc. Record the value for each C-measurement and maximum crush.

**Use as many lines/columns as necessary to describe each damage profile.**

[illegible]

# ORIGINAL SPECIFICATIONS WORK SHEET

Wheelbase 107.5 inches x 2.54 = 273 cm  
 Overall Length 194.9 inches x 2.54 = 495 cm  
 Maximum Width 71.9 inches x 2.54 = 183 cm  
 Curb Weight 3,370 pounds x 0.4536 = 1,529 kg  
 Average Track <sup>59.5</sup>58.8 inches x 2.54 = 149 cm  
 Front Overhang        inches x 2.54 = 112 cm  
 Rear Overhang        inches x 2.54 = 108 cm  
 Undeformed End Width        inches x 2.54 =        cm  
 Engine Size: cyl/dspl.        cc x 0.001 = 3.1 L  
 V6, 3.1 L        CID x 0.0164 =        L

6 passenger

Shipping Weight 3234

## SPECIAL CRASH INVESTIGATION ADDENDUM

Submodel Designation: {specify} SE Color: {specify} Blue Repair Cost: \$  
 Transmission: {circle} Automatic | Manual Speed: 3-speed 4-speed | 5-speed | Other:  
 Steering: {circle} Power-assisted | Manual Type: rack-and-pinion | worm-and-gear | Other  
 {please describe}:  
 Brakes: {circle} Power-assisted | Manual Type: 4-wheel disc | 4-wheel drum | 4-wheel hydraulic  
 | front disc, rear drum | Other:  
 Observed Defects: {specify} None  
 Fleet Type: {circle} Private vehicle | Rental vehicle | Leased vehicle | Commercial vehicle | Other  
 {please describe}:



## VEHICLE DAMAGE SKETCH

<b>TIRE—WHEEL DAMAGE</b> a. Rotation physically restricted      b. Tire deflated RF <u>1</u> RF <u>1</u> LF <u>2</u> LF <u>2</u> RR <u>2</u> RR <u>2</u> LR <u>2</u> LR <u>2</u> (1) Yes (2) No (8) NA (9) Unk.		<b>ORIGINAL SPECIFICATIONS</b> Wheelbase <u>273</u> cm Overall Length <u>495</u> cm Maximum Width <u>183</u> cm Curb Weight <u>1529</u> kg Average Track <u>149</u> cm Front Overhang <u>112</u> cm Rear Overhang <u>108</u> cm Undeformed End Width <u>146</u> cm Engine Size: cyl./displ. <u>V6 3.1</u> L		<b>WHEEL STEER ANGLES</b> (For locked front wheels or displaced rear axles only) RF ± _____ ° LF ± _____ ° RR ± _____ ° LR ± _____ ° Within ± 5 degrees
<b>TYPE OF TRANSMISSION</b> <input type="checkbox"/> Manual <input checked="" type="checkbox"/> Automatic		<b>DRIVE WHEELS</b> <input checked="" type="checkbox"/> FWD <input type="checkbox"/> RWD <input type="checkbox"/> 4WD		
		Approximate Cargo Weight _____ kg		

**MEASUREMENTS IN CENTIMETERS**

**Front View:** Width 153, Bumper height 38.

**Rear View:** Width 145, Bumper height 30.

**Side View (Pre-Crash):** Overall length 134, Bumper corner 90.5, Stringline 108.

**Side View (Post-Crash):** Overall length 278, Bumper corner 103, Stringline 108.

**Side View (Post-Crash):** Overall length 262, Bumper corner 106, Stringline 108.

**Annotations:** EXTRACTION/PRY MARKS - A-PILLAR, 1/2 TIRE X-UTFS.

**NOTES** Sketch new penmeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of stations, scuff on sidewalls, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.

Annotate any damage caused by extrication such as component removal by torching, prying, or hydraulic shears.

## COLLISION DEFORMATION CLASSIFICATION

## HIGHEST DELTA "V"

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force	(3) Deformation Location	(4) Longitudinal or Lateral Location	(5) Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
4. <u>01</u>	5. <u>02</u>	6. <u>12</u>	7. <u>F</u>	8. <u>D</u>	9. <u>E</u>	10. <u>W</u>	11. <u>03</u>

## Second Highest Delta "V"

12. <u>02</u>	13. <u>02</u>	14. <u>03</u>	15. <u>R</u>	16. <u>B</u>	17. <u>E</u>	18. <u>W</u>	19. <u>02</u>
---------------	---------------	---------------	--------------	--------------	--------------	--------------	---------------

## CRUSH PROFILE IN CENTIMETERS

The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. (ALL MEASUREMENTS ARE IN CENTIMETERS.)

## HIGHEST DELTA "V"

20. <u>L</u>	21. <u>C<sub>1</sub></u>	<u>C<sub>2</sub></u>	<u>C<sub>3</sub></u>	<u>C<sub>4</sub></u>	<u>C<sub>5</sub></u>	<u>C<sub>6</sub></u>	22. <u>±D</u>
<u>146</u>	<u>002</u>	<u>029</u>	<u>049</u>	<u>055</u>	<u>053</u>	<u>055</u>	<u>⊕ 010</u>

## Second Highest Delta "V"

23. <u>L</u>	24. <u>C<sub>1</sub></u>	<u>C<sub>2</sub></u>	<u>C<sub>3</sub></u>	<u>C<sub>4</sub></u>	<u>C<sub>5</sub></u>	<u>C<sub>6</sub></u>	25. <u>±D</u>
<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>+</u>
<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>-</u>

26. Undeformed End Width  
(Coded when highest severity impact is an end plane impact.) 146  
Code to the nearest centimeter  
(250) 250 centimeters or more  
(998) No highest severity end plane impact  
(999) Unknown

27. Direct Damage Width  
(For highest severity impact) 126  
Code to the nearest centimeter  
(250) 250 centimeters or more  
(999) Unknown

28. Original Wheelbase 273  
Code to the nearest centimeter  
(650) 650 centimeters or more  
(999) Unknown  
\_\_\_\_\_ inches X 2.54 = \_\_\_\_\_ centimeters

29. Original Average Track Width 149  
Code to the nearest centimeter  
(185) 185 centimeters or more  
(999) Unknown  
\_\_\_\_\_ inches X 2.54 = \_\_\_\_\_ centimeters

**FUEL SYSTEM**

30. Are CDCs Documented  
but Not Coded on The  
Automated File?

- (0) No  
(1) Yes

31. Researcher's Assessment of Vehicle  
Disposition

- (0) Not towed due to vehicle damage  
(1) Towed due to vehicle damage  
(9) Unknown

32. Is This A Multi-Stage Manufactured Vehicle  
And/Or A Certified Altered Vehicle?

- (0) No post manufacturer modifications  
(1) Yes - post manufacturer modifications  
(specify): \_\_\_\_\_

(Include photograph of CERTIFICATION  
PLACARD in case report)

- (9) Unknown if vehicle is modified

35. Location of Fuel Tank-1 Filler Cap

36. Location of Fuel Tank-2 Filler Cap

- (0) No fuel tank  
(1) On back plane  
(2) Aft of center of the rear wheels (rear axle)  
on left side plane  
(3) Aft of center of the rear wheels (rear axle)  
on right side plane  
(4) Forward of center of the rear wheels (rear  
axle) on left side plane  
(5) Forward of center of the rear wheels (rear  
axle) on right side plane  
(6) Over the center of the rear wheels (rear  
axle) on left side plane  
(7) Over the center of the rear wheels (rear  
axle) on right side plane  
(8) Other (specify): \_\_\_\_\_  
(9) Unknown

37. Type of Fuel Tank-1

38. Type of Fuel Tank-2

- (0) No fuel tank (electrical vehicle)  
(1) Metallic  
(2) Non-metallic  
(9) Unknown

39. Location of Fuel Tank-1

40. Location of Fuel Tank-2

- (0) No fuel tank  
(1) Aft of center of the rear wheels (rear axle)  
centered  
(2) Aft of center of the rear wheels (rear axle)  
left side  
(3) Aft of center of the rear wheels (rear axle)  
right side  
(4) Forward of center of the rear wheels (rear  
axle) centered  
(5) Forward of center of the rear wheels (rear  
axle) left side  
(6) Forward of center of the rear wheels (rear  
axle) right side  
(7) Over center of the rear wheels (rear axle)  
(8) Other (specify): \_\_\_\_\_  
(9) Unknown

41. Damage to Fuel Tank-1

42. Damage to Fuel Tank-2

- (0) No fuel tank  
(1) No damage to fuel tank  
(2) Deformed, no seam failure  
(3) Deformed, with a seam failure  
(4) Punctured  
(5) Lacerated (ripped)  
(6) Abraded (scraped)  
(7) Filler neck separation from the fuel tank  
(8) Other damage (specify): \_\_\_\_\_  
(9) Unknown

**FIRE OCCURRENCE**

33. Fire Occurrence

- (0) No fire

Yes, fire occurred

- (1) Minor  
(2) Major  
(9) Unknown

34. Origin of Fire

- (0) No fire  
(1) Vehicle exterior (front, side, back, top)  
(2) Exhaust system  
(3) Fuel tank (and other fuel retention  
system parts)  
(4) Engine compartment  
(5) Cargo/trunk compartment  
(6) Instrument panel  
(7) Passenger compartment area  
(8) Other location (specify): \_\_\_\_\_

- (9) Unknown

[illegible]



U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

# INTERIOR VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number 10

2. Case Number - Stratum 9510

3. Vehicle Number 01

## INTEGRITY

4. Passenger Compartment Integrity 00  
(00) No integrity loss

Yes, Integrity Was Lost Through

- (01) Windshield
- (02) Door (side)
- (03) Door/hatch (back door)
- (04) Roof
- (05) Roof glass
- (06) Side window
- (07) Rear window (backlight)
- (08) Roof and roof glass
- (09) Windshield and door (side)
- (10) Windshield and roof
- (11) Side and rear window (side window and backlight)
- (12) Windshield and side window
- (13) Door and side window
- (98) Other combination of above (specify):

(99) Unknown

Door, Tailgate or Hatch Opening

5. LF 1 6. RF 3 7. LR 1 8. RR 1 9. TG/H 0

- (0) No door/gate/hatch
- (1) Door/gate/hatch remained closed and operational
- (2) Door/gate/hatch came open during collision
- (3) Door/gate/hatch jammed shut
- (8) Other (specify):

(9) Unknown

Damage/Failure Associated with Door, Tailgate or Hatch Opening in Collision. If IV05-IV09  $\neq$  2, Then code 0

10. LF 0 11. RF 0 12. LR 0 13. RR 0 14. TG/H 0

- (0) No door/gate/hatch or door not opened

Door, Tailgate or Hatch Came Open During Collision

- (1) Door operational (no damage)
- (2) Latch/striker failure due to damage
- (3) Hinge failure due to damage
- (4) Door structure failure due to damage
- (5) Door support (i.e., pillar, sill, roof side rail, etc.) failure due to damage
- (6) Latch/striker and hinge failure due to damage
- (8) Other failure (specify):

(9) Unknown

## GLAZING

Type of Window/Windshield Glazing

15. WS 1 16. LF 2 17. RF 2 18. LR 2 19. RR 2  
20. BL 2 21. Roof 0 22. Other 2

- (0) No glazing
- (1) AS-1 - Laminated
- (2) AS-2 - Tempered
- (3) AS-3 - Tempered-tinted (original)
- (4) AS-2 - Tempered-with after market tint
- (5) AS-3 - Tempered-tinted (with additional after market tint)
- (6) AS-14 - Glass/Plastic
- (7) Glazing removed prior to accident
- (8) Other (specify):

(9) Unknown

Window Precrash Glazing Status

23. WS 1 24. LF 2 25. RF 2 26. LR 2 27. RR 2  
28. BL 1 29. Roof 0 30. Other 1

- (0) No glazing
- (1) Fixed
- (2) Closed
- (3) Partially opened
- (4) Fully opened
- (7) Glazing removed prior to accident
- (9) Unknown

Glazing Damage from Impact Forces

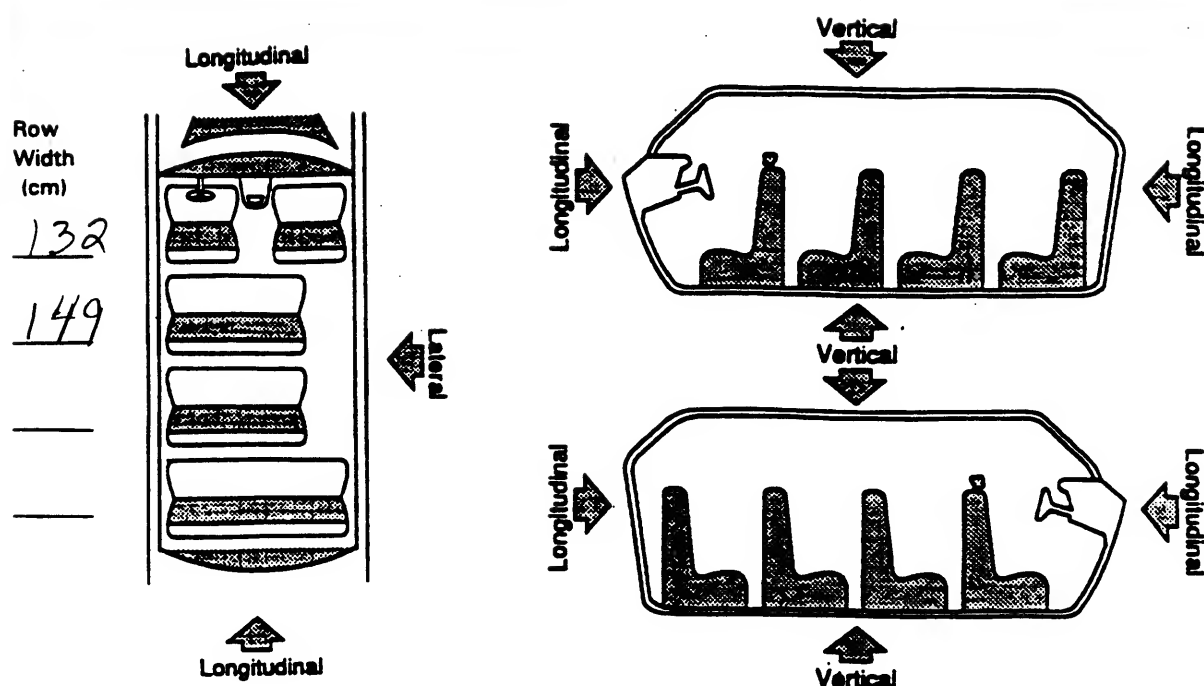
31. WS 2 32. LF 1 33. RF 1 34. LR 1 35. RR 1  
36. BL 1 37. Roof 0 38. Other 1

- (0) No glazing
- (1) No glazing damage from impact forces
- (2) Glazing in place and cracked from impact forces
- (3) Glazing in place and holed from impact forces
- (4) Glazing out-of-place (cracked or not) and not holed from impact forces
- (5) Glazing out-of-place and holed from impact forces
- (6) Glazing disintegrated from impact forces
- (7) Glazing removed prior to accident
- (9) Unknown if damaged

Glazing Damage from Occupant Contact

39. WS 1 40. LF 1 41. RF 1 42. LR 1 43. RR 1  
44. BL 1 45. Roof 0 46. Other 1

- (0) No glazing
- (1) No occupant contact to glazing
- (2) Glazing contacted by occupant but no glazing damage
- (3) Glazing in place and cracked by occupant contact
- (4) Glazing in place and holed by occupant contact
- (5) Glazing out-of-place (cracked or not) by occupant contact and not holed by occupant contact
- (6) Glazing out-of-place by occupant contact and holed by occupant contact
- (7) Glazing removed prior to accident
- (8) Glazing disintegrated by occupant contact
- (9) Unknown if contacted by occupant

[illegible]

**Document no more than the 15 most severe intrusions**

\* CODED UNKNOWN Due to excessive windshield sag from High Texas Heat. There was some direct contact from Hooc but can not be determined

## OCCUPANT AREA INTRUSION

Note: If no intrusions, leave variables IV47-IV86 blank.

	Location of Intrusion	Intruding Component	Magnitude of Intrusion	Dominant Crush Direction
1st	47. <u>13</u>	48. <u>06</u>	49. <u>3</u>	50. <u>2</u>
2nd	51. <u>13</u>	52. <u>04</u>	53. <u>3</u>	54. <u>2</u>
3rd	55. <u>12</u>	56. <u>03</u>	57. <u>3</u>	58. <u>2</u>
4th	59. <u>13</u>	60. <u>10</u>	61. <u>2</u>	62. <u>3</u>
5th	63. <u>13</u>	64. <u>05</u>	65. <u>2</u>	66. <u>2</u>
6th	67. <u>99</u>	68. <u>99</u>	69. <u>9</u>	70. <u>9</u>
7th	71. _____	72. _____	73. _____	74. _____
8th	75. _____	76. _____	77. _____	78. _____
9th	79. _____	80. _____	81. _____	82. _____
10th	83. _____	84. _____	85. _____	86. _____

## LOCATION OF INTRUSION

Front Seat  
 (11) Left  
 (12) Middle  
 (13) Right

Second Seat  
 (21) Left  
 (22) Middle  
 (23) Right

Third Seat  
 (31) Left  
 (32) Middle  
 (33) Right

Fourth Seat  
 (41) Left  
 (42) Middle  
 (43) Right

(97) Catastrophic  
 (98) Other enclosed area (specify)

(99) Unknown

## INTRUDING COMPONENT

## Interior Components

- (01) Steering assembly
- (02) Instrument panel left
- (03) Instrument panel center
- (04) Instrument panel right
- (05) Toe pan
- (06) A (A1/A2)-pillar
- (07) B-pillar
- (08) C-pillar
- (09) D-pillar
- (10) Side panel - forward of the A1/A2-pillar
- (11) Door panel (side)
- (12) Side panel - rear of the B-pillar
- (13) Roof (or convertible top)
- (14) Roof side rail
- (15) Windshield
- (16) Windshield header
- (17) Window frame
- (18) Floor pan (includes sill)
- (19) Backlight header
- (20) Front seat back
- (21) Second seat back
- (22) Third seat back
- (23) Fourth seat back
- (24) Fifth seat back
- (25) Seat cushion
- (26) Back door/panel (e.g., tailgate)
- (27) Other interior component (specify): \_\_\_\_\_

## Exterior Components

- (30) Hood
- (31) Outside surface of this vehicle (specify): \_\_\_\_\_
- (32) Other exterior object in the environment (specify): \_\_\_\_\_
- (33) Unknown exterior object
- (97) Catastrophic
- (98) Intrusion of unlisted component(s) (specify): \_\_\_\_\_
- (99) Unknown

## MAGNITUDE OF INTRUSION

- (1)  $\geq 3$  centimeters but  $< 8$  centimeters
- (2)  $\geq 8$  centimeters but  $< 15$  centimeters
- (3)  $\geq 15$  centimeters but  $< 30$  centimeters
- (4)  $\geq 30$  centimeters but  $< 46$  centimeters
- (5)  $\geq 46$  centimeters but  $< 61$  centimeters
- (6)  $\geq 61$  centimeters
- (7) Catastrophic
- (9) Unknown

## DOMINANT CRUSH DIRECTION

- (1) Vertical
- (2) Longitudinal
- (3) Lateral
- (7) Catastrophic
- (9) Unknown

## STEERING RIM/SPOKE DEFORMATION

(All Measurements Are in Centimeters)

COMPARISON VALUE	-	DAMAGE VALUE	=	DEFORMATION
------------------	---	--------------	---	-------------

11	-	8.5	=	25
----	---	-----	---	----



## STEERING COLUMN

## INSTRUMENT PANEL

87. Steering Column Type 2

- (1) Fixed column  
 (2) Tilt column  
 (3) Telescoping column  
 (4) Tilt and telescoping column  
 (8) Other column type (specify): \_\_\_\_\_  
 (9) Unknown

88. Tilt Steering Column Adjustment 3

- (0) No tilt steering column  
 (1) Full up  
 (2) Between full up and center  
 (3) Center  
 (4) Between center and full down  
 (5) Full down  
 (9) Unknown

89. Telescoping Steering Column Adjustment 0

- (0) No telescoping steering column  
 (1) Full back  
 (2) Between full back and midpoint  
 (3) Midpoint  
 (4) Between midpoint and full forward  
 (5) Full forward  
 (9) Unknown

90. Steering Rim/Spoke Deformation 03

- Code actual measured  
 deformation to the nearest centimeter  
 (00) No steering rim deformation  
 (01-14) Actual measured value in centimeters  
 (15) 15 centimeters or more  
 (98) Observed deformation cannot be measured  
 (99) Unknown

91. Location of Steering Rim/Spoke Deformation 05

- (00) No steering rim deformation

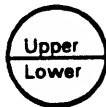
## Quarter Sections

- (01) Section A  
 (02) Section B  
 (03) Section C  
 (04) Section D



## Half Sections

- (05) Upper half of rim/spoke  
 (06) Lower half of rim/spoke  
 (07) Left half of rim/spoke  
 (08) Right half of rim/spoke



- (09) Complete steering wheel collapse  
 (10) Undetermined location  
 (99) Unknown

92. Odometer Reading 041,000

- \_\_\_\_\_ kilometers  
 Code to the nearest 1,000 kilometers  
 (000) No odometer  
 (001) Less than 1,500 kilometers  
 (500) 499,500 kilometers or more  
 (999) Unknown  
25,285 miles X 1.6093 = 40,692 kilometers

Source: \_\_\_\_\_

93. Instrument Panel Damage from Occupant Contact? 1

- (0) No  
 (1) Yes  
 (9) Unknown

94. Type of Knee Bolster Covering 1

- (0) No knee bolster  
 (1) Padded  
 (2) Rigid plastic  
 (8) Other (specify): \_\_\_\_\_  
 (9) Unknown

95. Knee Bolsters Deformed from Occupant Contact? 2

- (0) No knee bolster  
 (1) No deformation  
 (2) Yes - deformation  
 (9) Unknown

96. Did Glove Compartment Door Open During Collision(s)? 2

- (0) No glove compartment door  
 (1) No - door did not open  
 (2) Yes - door opened  
 (9) Unknown

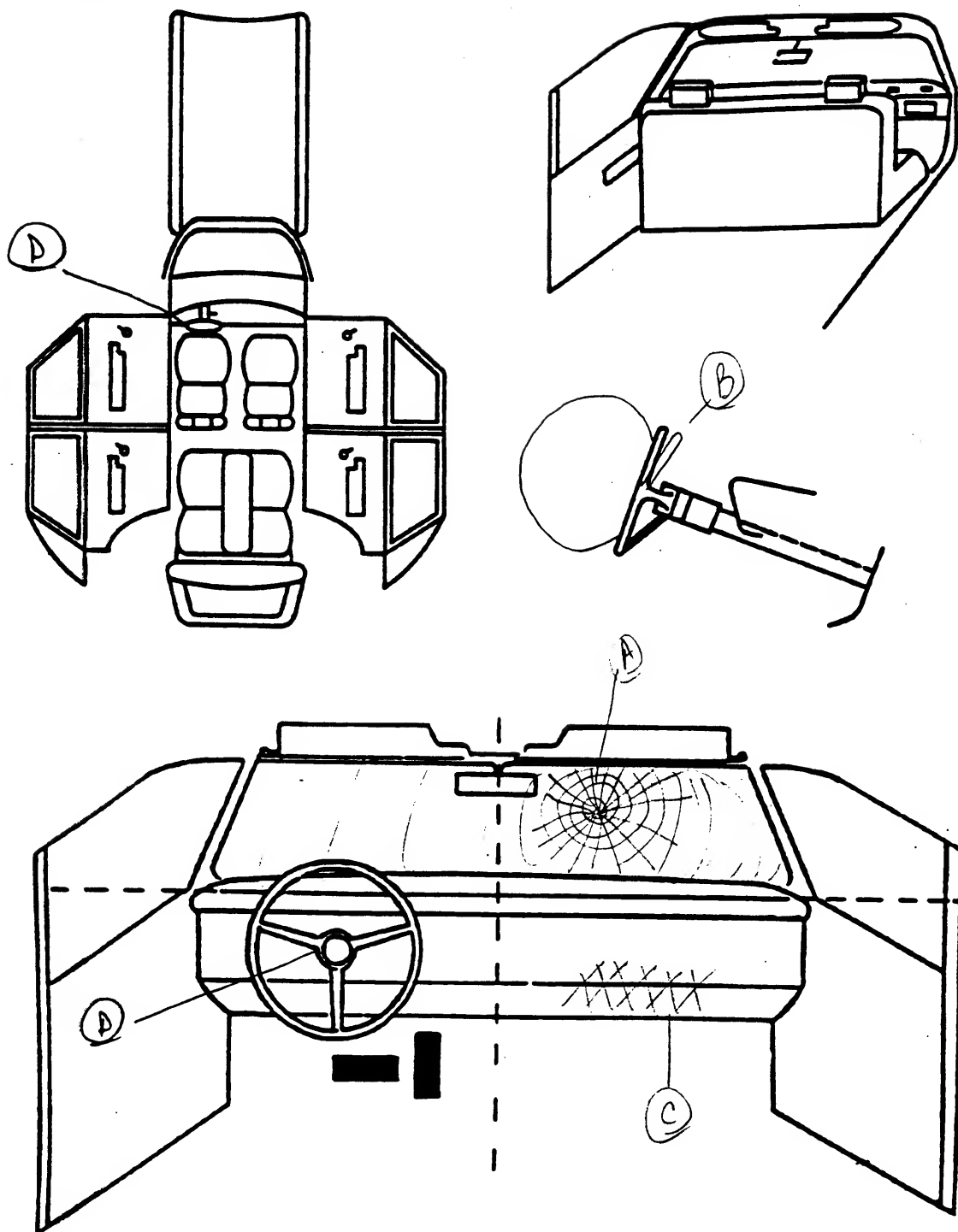
97. Adaptive (Assistive) Driving Equipment 0

- (0) No adaptive driving equipment  
 (1) Adaptive driving equipment installed (Check all that apply.)  
☐ Hand controls for braking/acceleration  
☐ Steering control devices (attached to OEM steering wheel)  
☐ Steering knob attached to steering wheel  
☐ Low effort power steering (unit or device)  
☐ Replacement steering wheel (i.e., reduced diameter)  
☐ Joy-stick steering controls  
☐ Wheelchair tie-downs  
☐ Modification to seat belts (specify): \_\_\_\_\_  
☐ Additional or relocated switches (specify): \_\_\_\_\_  
☐ Raised roof  
☐ Wall-mounted head rest (used behind wheelchair)  
☐ Other adaptive device (specify): \_\_\_\_\_

(9) Unknown

## VEHICLE INTERIOR SKETCHES

Note area of ejection/entrapment



Sketch windshield contact(s) and the damaged area(s) on the instrument panel outline (e.g., radio, glove compartment, damage to instrument panel structure).  
 Cross hatch contact points, draw spider webs or use other annotation as may be appropriate.  
 Annotate the contacted area with a letter (begin with A) and list on the Points of Occupant Contact page.

## POINTS OF OCCUPANT CONTACT

Contact	Interior Component Contacted	Occupant No. If Known	Body Region If Known	Supporting Physical Evidence	Confidence Level of Contact Point
A	001	AIR BAG	COVER PLAP	BLACK cloth TRANSFER	3
B	004			TOP 1/2 APPEARS Deformed	3
C	013			Scuffs	2
D	007	DRIVER		TURN SIGNAL Broken off	1
E					
F					
G					
H					
I					
J					
K					
L					
M					
N					

## CODES FOR INTERIOR COMPONENTS

## FRONT

- (001) Windshield  
 (002) Mirror  
 (003) Sunvisor  
 (004) Steering wheel rim  
 (005) Steering wheel hub/spoke  
 (006) Steering wheel (combination of codes 004 and 005)  
 (007) Steering column, transmission selector lever, other attachment  
 (008) Cellular telephone or CB radio  
 (009) Add on equipment (e.g., tape deck, air conditioner)  
 (010) Left instrument panel end below  
 (011) Center instrument panel end below  
 (012) Right instrument panel end below  
 (013) Glove compartment door  
 (014) Knee bolster  
 (015) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)  
 (016) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)  
 (017) Windshield reinforced by exterior object, (specify):  
 (019) Other front object (specify):

## LEFT SIDE

- (051) Left side interior surface, excluding hardware or armrests  
 (052) Left side hardware or armrest  
 (053) Left A (A1/A2)-pillar  
 (054) Left B-pillar  
 (055) Other left pillar (specify):  
 (056) Left side window glass  
 (057) Left side window frame  
 (058) Left side window sill  
 (059) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.  
 (060) Other left side object (specify):

## RIGHT SIDE

- (101) Right side interior surface, excluding hardware or armrests  
 (102) Right side hardware or armrest  
 (103) Right A (A1/A2)-pillar  
 (104) Right B-pillar  
 (105) Other right pillar (specify):  
 (106) Right side window glass  
 (107) Right side window frame  
 (108) Right side window sill  
 (109) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.  
 (110) Other right side object (specify):

## INTERIOR

- (151) Seat, back support  
 (152) Belt restraint webbing/buckle  
 (153) Belt restraint B-pillar or door frame attachment point  
 (154) Other restraint system component (specify):  
 (155) Head restraint system  
 (160) Other occupants (specify):  
 (161) Interior loose objects  
 (162) Child safety seat (specify):  
 (163) Other interior object (specify):  
 AIR BAG  
 (170) Air bag-driver side  
 (175) Air bag compartment cover-driver side  
 (180) Air bag-passenger side  
 (185) Air bag compartment cover-passenger side  
 (190) Other air bag (specify)  
 (195) Other air bag compartment cover (specify)

## ROOF

- (201) Front header  
 (202) Rear header  
 (203) Roof left side rail  
 (204) Roof right side rail  
 (205) Roof or convertible top

## FLOOR

- (251) Floor (including toe pan)  
 (252) Floor or console mounted transmission lever, including console  
 (253) Parking brake handle  
 (254) Foot controls including parking brake

## REAR

- (301) Backlight (rear window)  
 (302) Backlight storage rack, door, etc.  
 (303) Other rear object (specify):

## ADAPTIVE (ASSISTIVE) DRIVING EQUIPMENT

- (401) Hand controls for braking/acceleration  
 (402) Steering control devices (attached to OEM steering wheel)  
 (403) Steering knob attached to steering wheel  
 (405) Replacement steering wheel (i.e., reduced diameter)  
 (406) Joy stick steering controls  
 (407) Wheelchair tie-downs  
 (408) Modification to seat belts, (specify):  
 (409) Additional or relocated switches, (specify):  
 (410) Raised roof  
 (411) Wall mounted head rest (used behind wheel chair)  
 (412) Other adaptive device (specify):

## CONFIDENCE LEVEL OF CONTACT POINT

- (1) Certain  
 (2) Probable  
 (3) Possible  
 (9) Unknown

# MANUAL RESTRAINTS

**NOTES:** Encode the applicable data for each seat position in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

If a Child safety seat is present, encode the data on the back of this page.

If the vehicle has automatic restraints available, encode the appropriate data on the back of the previous page.

		Left	Center	Right
FIRST	Availability	4	0	4
	Evidence of usage	04		04
	Used in this crash?	04		04
	Proper Use			1
	Failure Modes	1		1
	Anchorage Adjustment	1		1
SECOND	Availability	4	3	4
	Evidence of usage	04	00	04
	Used in this crash?			
	Proper Use			
	Failure Modes			
	Anchorage Adjustment	1		1
OTHER	Availability			
	Evidence of usage			
	Used in this crash?			
	Proper Use			
	Failure Modes			
	Anchorage Adjustment			

## Manual (Active) Belt System Availability

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available - type unknown

## Integral Belt Partially Destroyed

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)
- (8) Other belt (specify):

- (9) Unknown

## Manual (Active) Belt System Use

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperable (specify):

- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used - type unknown
- (08) Other belt used (specify):

- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat type unknown
- (18) Other belt used with child safety seat (specify):
- (99) Unknown if belt used

## Proper Use of Manual (Active) Belts

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

## Belt Used Improperly

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify):
- (8) Other improper use of manual belt system (specify):
- (9) Unknown

## Manual (Active) Belt Failure Modes During Accident

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):
- (6) Broken retractor
- (7) Combination of above (specify):
- (8) Other manual belt failure (specify):
- (9) Unknown

## Shoulder Belt Upper Anchorage Adjustment

- (0) No shoulder belt
- (1) No upper anchorage adjustment for shoulder belt

## Adjustable shoulder Belt Upper Anchorage

- (2) In full up position
- (3) In mid position
- (4) In full down position
- (5) Position unknown
- (9) Unknown if position has adjustable upper anchorage adjustment

## AUTOMATIC RESTRAINTS

NOTES: Encode the data for each applicable front seat position. The attribute for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

## AIR BAGS

		Left Front	Right Front	Other
F I R S T	Availability/Function	/	/	0
	Deployment	/	/	0
	Failure	/	/	0

## Air Bag System Availability/Function

- (0) Not equipped/not available  
(1) Air bag

## Non-functional/

- (2) Air bag disconnected (specify):  
\_\_\_\_\_  
(3) Air bag not reinstalled  
(9) Unknown

## Are There Indications of Air Bag System Failure? (This Occupant Position)

- (0) Not equipped/not available  
(1) No  
(2) Yes (specify):  
\_\_\_\_\_  
(9) Unknown

## Frontal Air Bag System Deployment (This Occupant Position)

- (0) Not equipped/not available  
(1) Deployed during accident (as a result of impact)  
(2) Deployed inadvertently just prior to accident  
(3) Deployed, accident sequence undetermined  
(4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)  
(5) Unknown if deployed  
(7) Nondeployed  
(9) Unknown

## Air Bag(s) Deployment, Other Than First Seat Frontal (This Occupant Position)

- (0) Not equipped with an "other" air bag  
(1) Deployed during accident (as a result of impact)  
(2) Deployed inadvertently just prior to accident  
(3) Deployed, details unknown  
(4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)  
(5) Unknown if deployed  
(7) Nondeployed  
(9) Unknown

## AUTOMATIC BELTS

		Left	Right
F I R S T	Availability/Function		
	Use		
	Type		
	Proper Use		
	Failure Modes		

## Automatic (Passive) Belt System Availability/Function

- (0) Not equipped/not available  
(1) 2 point automatic belts  
(2) 3 point automatic belts  
(3) Automatic belts - type unknown

## Non-functional/

- (4) Automatic belts destroyed or rendered inoperative  
(9) Unknown

## Automatic (Passive) Belt System Use

- (0) Not equipped/not available/destroyed or rendered inoperative  
(1) Automatic belt in use  
(2) Automatic belt not in use (manually disconnected, motorized track inoperative)  
(3) Automatic belt use unknown  
(9) Unknown

## Automatic (Passive) Belt System Type

- (0) Not equipped/not available  
(1) Non-motorized system  
(2) Motorized system  
(9) Unknown

## Proper Use of Automatic (Passive) Belt System

- (0) Not equipped/not available/not used  
(1) Automatic belt used properly  
(2) Automatic belt used properly with child safety seat

## Automatic Belt Used Improperly

- (3) Automatic shoulder belt worn under arm  
(4) Automatic shoulder belt worn behind back  
(5) Automatic belt worn around more than one person  
(6) Lap portion of automatic belt worn on abdomen  
(7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify):  
\_\_\_\_\_  
(8) Other improper use of automatic belt system (specify):  
\_\_\_\_\_  
(9) Unknown

## Automatic (Passive) Belt Failure Modes During Accident

- (0) Not equipped/not available/not in use  
(1) No automatic belt failure(s)  
(2) Torn webbing (stretched webbing not included)  
(3) Broken buckle or latchplate  
(4) Upper anchorage separated  
(5) Other anchorage separated (specify):  
\_\_\_\_\_  
(6) Broken retractor  
(7) Combination of above (specify):  
\_\_\_\_\_  
(8) Other automatic belt failure (specify):  
\_\_\_\_\_  
(9) Unknown

# FIRST SEAT FRONTAL AIR BAGS

NOTES: Encode the applicable data for the driver and first seat passenger in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

	Driver	Passenger
Type of air bag?	1	1
Flaps open at tear points?	2	2
Flaps damaged?	1	1 — Not from opening
Air bag damaged?	01	01
Source of air bag damage	01	01
Air bag tethered?	1	2
Air bag have vent ports?	2	2
Other occupant contact air bag?	1	1
Occupant wearing eyewear?	9	9

## Type of Air Bag

- (0) Not equipped/not available
- (1) Original manufacturer installed system
- (2) Retrofitted air bag
- (3) Replacement air bag
- (8) Unknown type of air bag
- (9) Unknown

## Did Air Bag Module Cover Flap(s) Open At Designated Tear Points?

- (0) Not equipped/not available
- (1) No
- (2) Yes
- (3) Deployed, unknown if flap(s) opened at designated tear points
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

## Were Air Bag Module Cover Flap(s) Damaged?

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify):
- (3) Deployed, unknown if air bag module cover flap(s) damaged
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

## Was There Damage To The Air Bag?

- (00) Not equipped/not available
- (01) Not damaged

### Yes - Air Bag Damage

- (02) Ruptured
- (03) Cut
- (04) Torn
- (05) Holed
- (06) Burned
- (07) Abraded
- (88) Other damage (specify):

- (95) Damaged, details unknown
- (96) Deployed, unknown if damaged
- (97) Not deployed
- (98) Unknown if deployed
- (99) Unknown

## Source of Air Bag Damage

- (00) Not equipped/not available
- (01) Not damaged
- (02) Object worn by occupant, (specify):
- (03) Object carried by occupant, (specify):
- (04) Adaptive/assistive controls, (specify):
- (05) Fire in vehicle
- (06) Thermal burns
- (07) Rescue or emergency efforts
- (88) Other damage source (specify):
- (95) Damaged, unknown source
- (96) Deployed, unknown if damaged
- (97) Not deployed
- (98) Unknown if deployed
- (99) Unknown

## Was The Air Bag Tethered?

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify number of tether straps): 2 pass
- (3) Deployed, unknown if tethered
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

## Did The Air Bag Have Vent Ports?

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify number of vent ports): 2 DR, 1 PASS
- (3) Deployed, unknown if vent ports present
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

## Was the Air Bag in this Occupant's Position Contacted by Another Occupant?

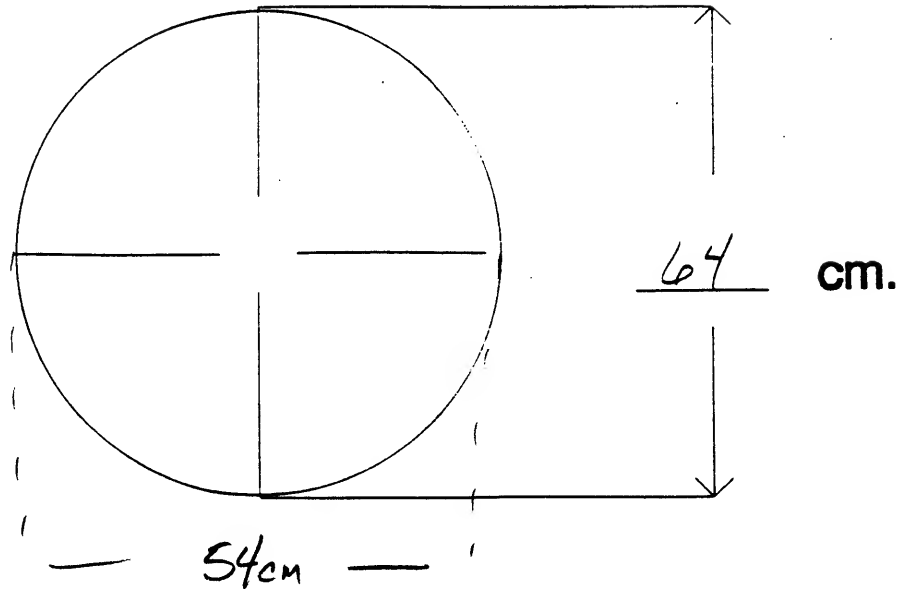
- (0) Not equipped/not available
- (1) No
- (2) Yes (specify):
- (3) Deployed, unknown if other occupant contact to air bag
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

## Was This Occupant Wearing Eye-wear?

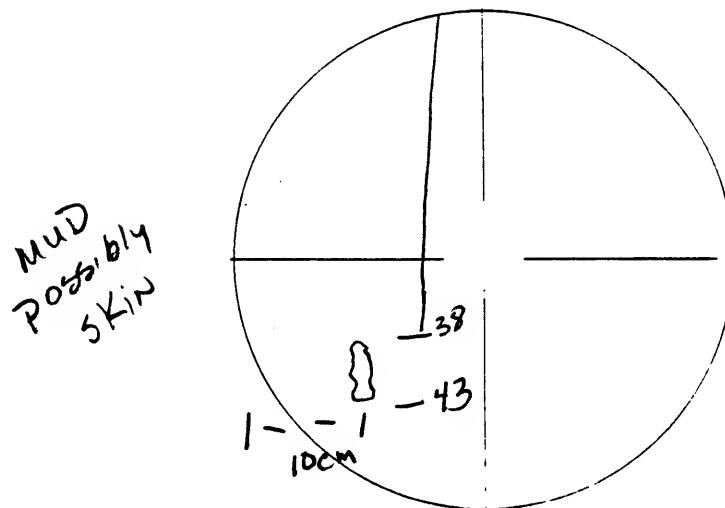
- (0) Not equipped/not available
- (1) No
- (2) Eyeglasses/sunglasses
- (3) Contact lenses
- (4) Deployed, unknown if eyewear worn
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

## DRIVER AIR BAG DAMAGE AND CONTACT SKETCHES

## 1. SKETCH DAMAGE AND CONTACT EVIDENCE ON DRIVER AIR BAG (Front)



## 2. SKETCH DAMAGE AND CONTACT EVIDENCE ON DRIVER AIR BAG (Back)



### DRIVER AIR BAG SKETCHES (Cont'd)

#### 3. DRIVER AIR BAG MODULE COVER FLAP SIZE (DOUBLE)

a. Upper Flap

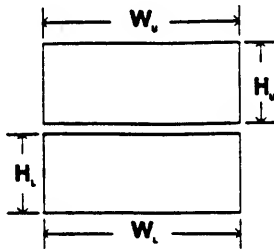
b. Lower Flap

width ( $W_U$ ) \_\_\_\_\_

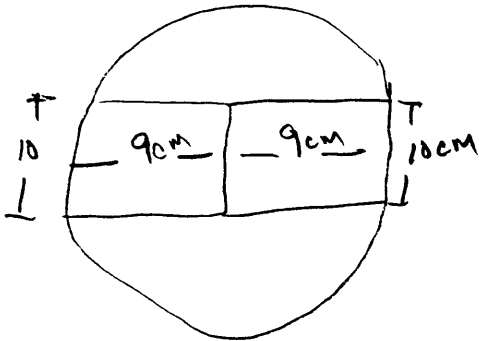
width ( $W_L$ ) \_\_\_\_\_

height ( $H_U$ ) \_\_\_\_\_

height ( $H_L$ ) \_\_\_\_\_

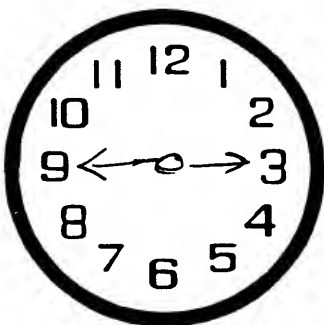


#### 4. SKETCH OF OTHER TYPE OF AIR BAG MODULE FLAP AND SIZE



#### 5. SKETCH OF OTHER TYPE OF AIR BAG VENT PORTS

#### 6. SKETCH LOCATION OF CIRCULAR AIR BAG VENT PORTS

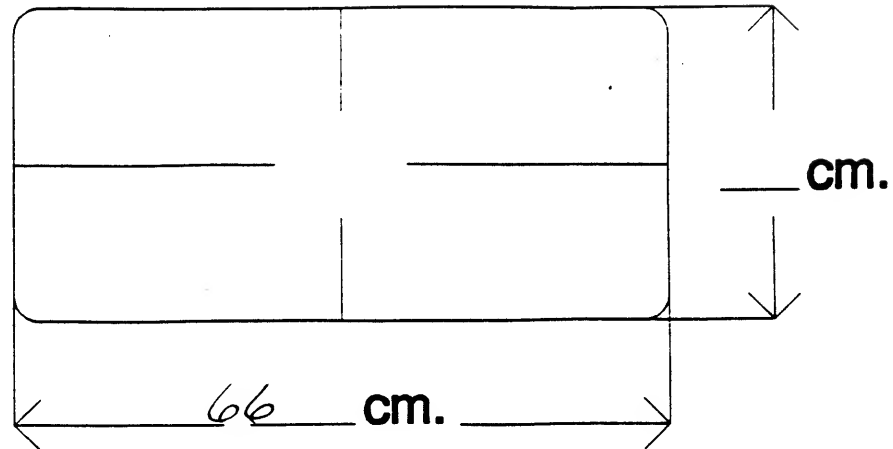


vent  
Hole DIAM  
3cm

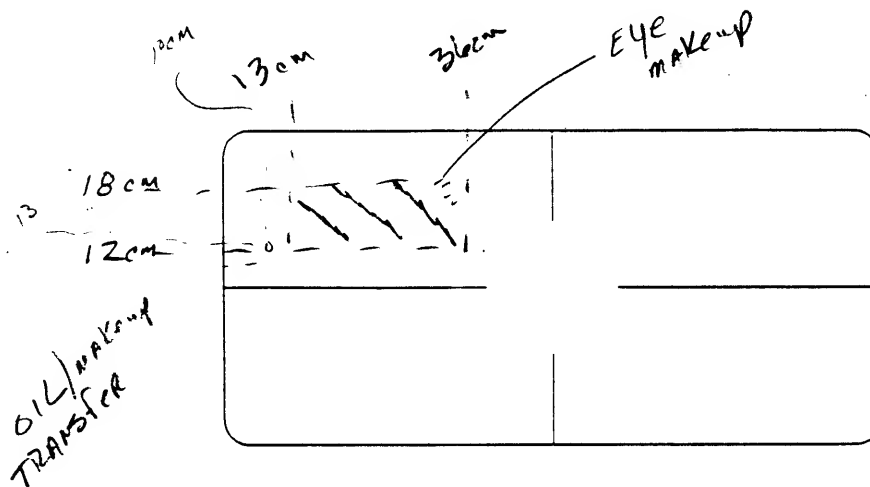


## PASSENGER AIR BAG DAMAGE AND CONTACT SKETCHES

## 1. SKETCH DAMAGE AND CONTACT EVIDENCE ON PASSENGER AIR BAG (Front)



## 2. SKETCH DAMAGE AND CONTACT EVIDENCE ON PASSENGER AIR BAG (Back)



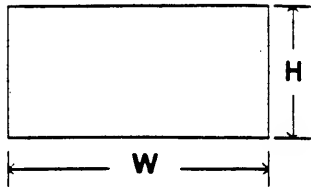
# PASSENGER AIR BAG SKETCHES (Cont'd)

## 3. PASSENGER AIR BAG MODULE COVER FLAP SIZE (SINGLE)

a. Flap

width (W) \_\_\_\_\_

height (H) \_\_\_\_\_



## 4. PASSENGER AIR BAG MODULE COVER FLAP SIZE (DOUBLE)

a. Upper Flap

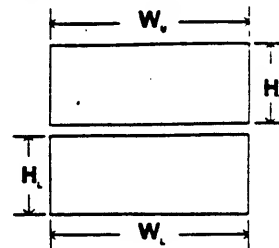
b. Lower Flap

width ( $W_U$ ) \_\_\_\_\_

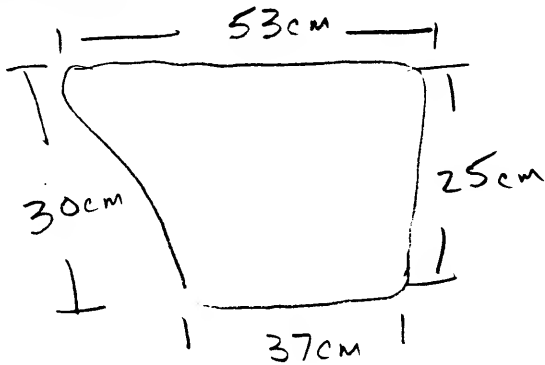
width ( $W_L$ ) \_\_\_\_\_

height ( $H_U$ ) \_\_\_\_\_

height ( $H_L$ ) \_\_\_\_\_

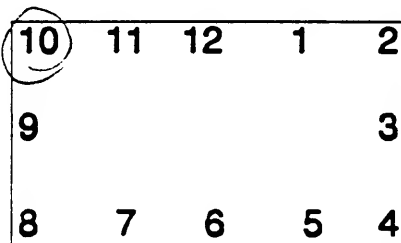


## 5. SKETCH OF OTHER TYPE OF AIR BAG MODULE FLAP AND SIZE



## 6. SKETCH OF OTHER TYPE OF AIR BAG VENT PORTS

## 7. SKETCH LOCATION OF RECTANGULAR AIR BAG VENT PORTS



vent  
5cm DIAM

**"OTHER" AIR BAG DAMAGE AND CONTACT SKETCHES**

1. SKETCH DAMAGE AND CONTACT EVIDENCE ON "OTHER" AIR BAG (Front)

2. SKETCH DAMAGE AND CONTACT EVIDENCE ON "OTHER" AIR BAG (Back)

***"OTHER"* AIR BAG SKETCHES (Cont'd)**

**3. SKETCH AIR BAG MODULE FLAP AND SIZE OR OPENING FOR AIRBAG**

**4. SKETCH AIR BAG VENT PORTS**

## HEAD RESTRAINTS/SEAT EVALUATION

NOTES: Encode the applicable data for each seat position in the vehicle. The attribute for these variables may be found at the bottom of the page. Head restraint type/damage and seat type/performance should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

		Left	Center	Right
FIRST	Head Restraint Type/Damage	3		3
	Seat Type	02		02
	Seat Performance	1		1
	Seat Orientation	1		1
	Seat Track Position	6*		5*
	Seat Back Incline Pre/Post Impact	14		14
SECOND	Head Restraint Type/Damage	1	0	1
	Seat Type	03	03	03
	Seat Performance	1	1	1
	Seat Orientation	1	1	1
	Seat Track Position	1	1	1
	Seat Back Incline Pre/Post Impact	01	01	01
THIRD	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			
	Seat Orientation			
	Seat Track Position			
	Seat Back Incline Pre/Post Impact			
OTHER	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			
	Seat Orientation			
	Seat Track Position			
	Seat Back Incline Pre/Post Impact			

DESCRIBE ANY INDICATION OF ABNORMAL OCCUPANT POSTURE

(I.E., UNUSUAL OCCUPANT CONTACT PATTERN)

\* upon veh inspection the seat tracks appeared to have been moved during the extrication process.

## HEAD RESTRAINTS/SEAT EVALUATION

## Head Restraint Type/Damage by Occupant at This Occupant Position

- (0) No head restraints  
 (1) Integral — no damage  
 (2) Integral — damaged during accident  
 (3) Adjustable — no damage  
 (4) Adjustable — damaged during accident  
 (5) Add-on — no damage  
 (6) Add-on — damaged during accident  
 (8) Other  
 Specify: \_\_\_\_\_  
 (9) Unknown

## Seat Type (this Occupant Position)

- (00) Occupant not seated or no seat  
 (01) Bucket  
 (02) Bucket with folding back  
 (03) Bench  
 (04) Bench with separate back cushions  
 (05) Bench with folding back(s)  
 (06) Split bench with separate back cushions  
 (07) Split bench with folding back(s)  
 (08) Pedestal (i.e., column supported)  
 (09) Other seat type (specify): \_\_\_\_\_  
 (10) Box mounted seat (i.e., van type)  
 (99) Unknown

## Seat Performance (this Occupant Position)

- (0) Occupant not seated or no seat  
 (1) No seat performance failure(s)  
 (2) Seat adjusters failed  
 (3) Seat back folding locks or "seat back" failed (specify): \_\_\_\_\_  
 (4) Seat tracks/anchors failed  
 (5) Deformed by impact of occupant  
 (6) Deformed by passenger compartment intrusion (specify): \_\_\_\_\_  
 (7) Combination of above (specify): \_\_\_\_\_  
 (8) Other (specify): \_\_\_\_\_  
 (9) Unknown

## Seat Orientation (this Occupant Position)

- (0) Occupant not seated or no seat  
 (1) Forward facing seat  
 (2) Rear facing seat  
 (3) Side facing seat (inward)  
 (4) Side facing seat (outward)  
 (8) Other (specify): \_\_\_\_\_  
 (9) Unknown

## Seat Track Adjusted Position Prior To Impact

- (0) Occupant not seated or no seat  
 (1) Non-adjustable seat track

## Adjustable Seat Track

- (2) Seat at forward most track position  
 (3) Seat between forward most and middle track positions  
 (4) Seat at middle track position  
 (5) Seat between middle and rear most track positions  
 (6) Seat at rear most track position  
 (9) Unknown

## Seat Back Incline Prior and Post Impact

- (00) Occupant not seated or no seat  
 (01) Not adjustable

## Upright prior to impact

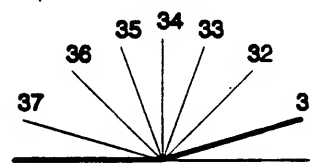
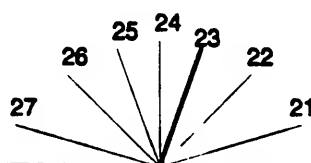
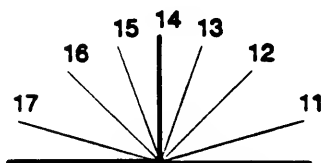
- (11) Moved to completely rearward position  
 (12) Moved to rearward midrange position  
 (13) Moved to slightly rearward position  
 (14) Retained pre-impact position  
 (15) Moved to slightly forward position  
 (16) Moved to forward midrange position  
 (17) Moved to completely forward position

## Slightly reclined prior to impact

- (21) Moved to completely rearward position  
 (22) Moved to rearward midrange position  
 (23) Retained pre-impact position  
 (24) Moved to upright position  
 (25) Moved to slightly forward position  
 (26) Moved to forward midrange position  
 (27) Moved to completely forward position

## Completely reclined prior to impact

- (31) Retained pre-impact position  
 (32) Moved to rearward midrange position  
 (33) Moved to slightly rearward position  
 (34) Moved to upright position  
 (35) Moved to slightly forward position  
 (36) Moved to forward midrange position  
 (37) Moved to completely forward position  
 (99) Unknown



Coding diagrams for Seat Back Incline Position Prior and Post Impact

DESCRIBE ANY INDICATION OF ABNORMAL OCCUPANT POSTURE  
 (I.E., UNUSUAL OCCUPANT CONTACT PATTERN)

## CHILD SAFETY SEAT FIELD ASSESSMENT

When a child safety seat is present enter the occupant's number in the first row and complete the column below the occupant's number using the codes listed below. Complete a column for each child safety seat present.

Occupant Number						
1. Type of Child Safety Seat						
2. Child Safety Seat Orientation						
3. Child Safety Seat Harness Usage						
4. Child Safety Seat Shield Usage						
5. Child Safety Seat Tether Usage						
6. Child Safety Seat Make/Model	Specify Below for Each Child Safety Seat					

**1. Type of Child Safety Seat**

- (0) No child safety seat
- (1) Infant seat
- (2) Toddler seat
- (3) Convertible seat
- (4) Booster seat
- (7) Other type child safety seat (specify):

- (8) Unknown child safety seat type
- (9) Unknown if child safety seat used

**2. Child Safety Seat Orientation**

- (00) No child safety seat

Designed for Rear Facing for This Age/Weight

- (01) Rear facing
- (02) Forward facing
- (08) Other orientation (specify):

- (09) Unknown orientation

Designed for Forward Facing for This Age/Weight

- (11) Rear facing
- (12) Forward facing
- (18) Other orientation (specify):

- (19) Unknown orientation

Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight

- (21) Rear facing
- (22) Forward facing
- (28) Other orientation (specify):

- (29) Unknown orientation

- (99) Unknown if child safety seat used

**3. Child Safety Seat Harness Usage**

**4. Child Safety Seat Shield Usage**

**5. Child Safety Seat Tether Usage**

Note: Options Below Are Used for Variables 3-5.

- (00) No child safety seat

Not Designed with Harness/Shield/Tether

- (01) After market harness/shield/tether added, not used
- (02) After market harness/shield/tether used
- (03) Child safety seat used, but no after market harness/shield/tether added
- (09) Unknown if harness/shield/tether added or used

Designed With Harness/Shield/Tether

- (11) Harness/shield/tether not used
- (12) Harness/shield/tether used
- (19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether

- (21) Harness/shield/tether not used
- (22) Harness/shield/tether used
- (29) Unknown if harness/shield/tether used

- (99) Unknown if child safety seat used

**6. Child Safety Seat Make/Model**

(Specify make/model and occupant number)

---



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**EJECTION/ENTRAPMENT DATA**

Complete the following if the researcher has any indication that an occupant was either ejected from or entrapped in the vehicle. Code the appropriate data on the Occupant Assessment Form.

**EJECTION** No ☒ Yes ☐

Describe indications of ejection and body parts involved in partial ejection(s):

---



---



---



---

Occupant Number						
Ejection						
(Note on Vehicle Interior Sketch) Ejection Area						
Ejection Medium						
Medium Status						

**Ejection**

- (1) Complete ejection  
(2) Partial ejection  
(3) Ejection, Unknown degree  
(9) Unknown

**Ejection Area**

- (1) Windshield  
(2) Left front  
(3) Right front  
(4) Left rear  
(5) Right rear  
(6) Rear

**(7) Roof**

- (8) Other area (e.g., back of pickup, etc.) (specify):

**(9) Unknown****Ejection Medium**

- (1) Door/hatch/tailgate  
(2) Nonfixed roof structure  
(3) Fixed glazing  
(4) Nonfixed glazing (specify):

**(5) Integral structure**

- (8) Other medium (specify):

**(9) Unknown****Medium Status (Immediately Prior to Impact)**

- (1) Open  
(2) Closed  
(3) Integral structure  
(9) Unknown

**ENTRAPMENT** No ☒ Yes ☐

Describe entrapment mechanism:

---



---



---



---

Component(s):

---

(Note in vehicle interior diagram)



**Appendix E:**

**NASS CDS VEHICLE FORMS: VEHICLE #2**



## GENERAL VEHICLE FORM

1. Primary Sampling Unit Number

10

2. Case Number - Stratum

9510

3. Vehicle Number

02

### VEHICLE IDENTIFICATION

4. Vehicle Model Year

90

Code the last two digits of the model year  
(99) Unknown

5. Vehicle Make (specify):

12

FORD

Applicable codes are found in your  
NASS Data Collection, Coding and  
Editing Manual.  
(99) Unknown

6. Vehicle Model (specify):

481

F150 XLT LARIAT  
Applicable codes are found in your  
NASS Data Collection, Coding and  
Editing Manual.  
(999) Unknown

7. Body Type

31

Note: Applicable codes may be found on  
the back of this page.

8. Vehicle Identification Number

1FTEX15H3LK

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17  
Left justify; Slash zeros and letter Z (0 and Z)  
No VIN—Code all zeros Unknown—Code all nines

9. Vehicle Special Use (This Trip)

0

- (0) No special use  
(1) Taxi  
(2) Vehicle used as school bus  
(3) Vehicle used as other bus  
(4) Military  
(5) Police  
(6) Ambulance  
(7) Fire truck or car  
(8) Other (specify):  
(9) Unknown

### OFFICIAL RECORDS

10. Police Reported Vehicle Disposition

1

- (0) Not towed due to vehicle damage  
(1) Towed due to vehicle damage  
(9) Unknown

11. Police Reported Travel Speed

999

Code to the nearest kmph (NOTE: 000 means  
less than 0.5 kmph)  
(160) 159.5 kmph and above  
(999) Unknown

\_\_\_\_ mph X 1.6093 = \_\_\_\_ kmph

12. Speed Limit

999

(000) No statutory limit  
Code posted or statutory speed limit  
in kmph  
(999) Unknown

\_\_\_\_ mph X 1.6093 = \_\_\_\_ kmph

13. Police Reported Alcohol Presence For Driver

0

- (0) No alcohol present  
(1) Yes alcohol present  
(7) Not reported  
(8) No driver present  
(9) Unknown

14. Alcohol Test Result For Driver

96

Code actual value (decimal implied  
before first digit—0.xx)  
(95) Test refused  
(96) None given  
(97) AC test performed, results unknown  
(98) No driver present  
(99) Unknown

Source:

PAR

15. Police Reported Other Drug Presence For Driver

0

- (0) No other drug(s) present  
(1) Yes other drug(s) present  
(7) Not reported  
(8) No driver present  
(9) Unknown

16. Other Drug Specimen Test Result For Driver

0

- (0) No specimen test given  
(1) Drug(s) not found in specimen  
(2) Drug(s) found in specimen, (specify):  
(3) Specimen test given, results unknown or not  
obtained  
(8) No driver present  
(9) Unknown if specimen test given

17. Driver's Zip Code

(00001) Driver not a resident of U.S. or territories  
Code actual 5-digit zip code  
(99998) No driver present  
(99999) Unknown

18. Driver's Race/Ethnic Origin

2

- (1) White (non-Hispanic)  
(2) Black (non-Hispanic)  
(3) White (Hispanic)  
(4) Black (Hispanic)  
(5) American Indian, Eskimo or Aleut  
(6) Asian or Pacific Islander  
(7) Other (specify):  
(8) No driver present  
(9) Unknown

# CODES FOR BODY TYPE

## CDS APPLICABLE VEHICLES

### Automobiles

- (01) Convertible (excludes sun-roof, t-bar)
- (02) 2-door sedan, hardtop, coupe
- (03) 3-door/2-door hatchback
- (04) 4-door sedan, hardtop
- (05) 5-door/4-door hatchback
- (06) Station wagon (excluding van and truck based)
- (07) Hatchback, number of doors unknown
- (08) Other automobile type (specify): \_\_\_\_\_
- (09) Unknown automobile type

### Automobile Derivatives

- (10) Auto based pickup (includes El Camino, Caballero, Ranchero, Brat, and Rabbit pickup)
- (11) Auto based panel (cargo station wagon, auto based ambulance/hearse)
- (12) Large limousine - more than four side doors or stretched chassis
- (13) Three-wheel automobile or automobile derivative

### Utility Vehicles ( $\leq 4,500$ kgs GVWR)

- (14) Compact utility (Jeep CJ-2 - CJ-7, Scrambler, Golden Eagle, Renegade, Laredo, Wrangler, Cherokee [84 and after], Dispatcher, Raider, Bronco II, Bronco [76 and before], Explorer, S-10 Blazer, Geo Tracker, Bravada, S-15 Jimmy, Thing, Pathfinder, Trooper, Trooper II, Rodeo, Amigo, Navajo, 4-Runner, Montero, Passport, Samurai, Sidekick, Rocky)
- (15) Large utility (includes Jeep Cherokee [83 and before], Ramcharger, Trailduster, Bronco-fullsize [78 and after], fullsize Blazer, fullsize Jimmy, Hummer, Landcruiser, Rover, Scout, Yukon)
- (16) Utility station wagon (Chevy Suburban, GMC Suburban, Travelall, Grand Wagoneer, includes suburban limousine)
- (19) Utility, unknown body type

### Van Based Light Trucks ( $\leq 4,500$ kgs GVWR)

- (20) Minivan (Town and Country, Caravan, Grand Caravan, Voyager, Grand Voyager, Mini-Ram, Vista, Aerostar, Windstar, Villager, Lumina APV, Trans Sport, Silhouette, Astro, Safari, Toyota Van, Toyota Minivan, Previa, Nissan Minivan, Quest, Mitsubishi Minivan, Expo Wagon, Vanagon/Camper.)
- (21) Large van (B150-B350, Sportsman, Royal, Maxiwagon, Ram, Tradesman, Voyager [83 and before], E150-E350, Econoline, Clubwagon, Chateau, G10-G30, Chevy Van, Beauville, Sport Van, G15-G35, Rally Van, Vandura.)
- (22) Step van or walk-in van ( $\leq 4,500$  kgs GVWR)
- (23) Van based motorhome ( $\leq 4,500$  kgs GVWR)
- (24) Van based school bus ( $\leq 4,500$  kgs GVWR)
- (25) Van based other bus ( $\leq 4,500$  kgs GVWR)
- (28) Other van type (Hi-Cube Van, Kary) (specify): \_\_\_\_\_
- (29) Unknown van type

### Light Conventional Trucks (Pickup style cab, $\leq 4,500$ kgs GVWR)

- (30) Compact pickup (D50, Colt P/U, Ram 50, Dakota, Arrow Pickup [foreign], Ranger, Courier, S-10, T-10, LUV, S-15, T-15, Sonoma, Datsun/Nissan Pickup, P up, Mazda Pickup, Toyota Pickup, Mitsubishi Pickup)
- (31) Large Pickup (Jeep Pickup, Comanche, Ram Pickup, D100-D350, W100-W350, F100-F350, C10-C35, K10-K35, R10-R35, V10-V35, Silverado, Sierra, R100-R500, T100)

- (32) Pickup with slide-in camper
- (33) Convertible pickup
- (39) Unknown pickup style light conventional truck type

### Other Light Trucks ( $\leq 4,500$ kgs GVWR)

- (40) Cab chassis based (includes rescue vehicles, light stake, dump, and tow truck)
- (41) Truck based panel
- (42) Light truck based motorhome (chassis mounted)
- (45) Other light conventional truck type
- (48) Unknown light truck type
- (49) Unknown light vehicle type (automobile, utility, van, or light truck)

## OTHER VEHICLES

### Buses (Excludes Van Based)

- (50) School bus (designed to carry students, not cross country or transit)
- (58) Other bus type (e.g., transit, intercity, bus based motorhome) (specify): \_\_\_\_\_
- (59) Unknown bus type

### Medium/Heavy Trucks ( $> 4,500$ kgs GVWR)

- (60) Step van ( $> 4,500$  kgs GVWR)
- (61) Single unit straight truck ( $4,500$  kgs  $<$  GVWR  $\leq 8,850$  kgs)
- (62) Single unit straight truck ( $8,850$  kgs  $<$  GVWR  $\leq 12,000$  kgs)
- (63) Single unit straight truck ( $> 12,000$  kgs GVWR)
- (64) Single unit straight truck, GVWR unknown
- (65) Medium/heavy truck based motorhome
- (67) Truck-tractor with no cargo trailer
- (68) Truck-tractor pulling one trailer
- (69) Truck-tractor pulling two or more trailers
- (70) Truck-tractor (unknown if pulling trailer)
- (78) Unknown medium/heavy truck type
- (79) Unknown truck type (light/medium/heavy)

### Motored Cycles (Does Not Include All-Terrain Vehicles/Cycles)

- (80) Motorcycle
- (81) Moped (motorized bicycle)
- (82) Three-wheel motorcycle or moped
- (88) Other motored cycle (minibike, motorscooter) (specify): \_\_\_\_\_
- (89) Unknown motored cycle type

### Other Vehicles

- (90) ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle)
- (91) Snowmobile
- (92) Farm equipment other than trucks
- (93) Construction equipment other than trucks
- (97) Other vehicle type
- (99) Unknown body type

## PRECRASH ENVIRONMENTAL DATA

19. Relation To Interchange Or Junction 3

- (0) Non-interchange area and non-junction  
 (1) Interchange area related

*Non-Interchange junctions*

- (2) Intersection related  
 (3) Driveway, alley access related  
 (4) Other junction (specify) \_\_\_\_\_

(5) \_\_\_\_\_  
 Unknown type of junction

(9) Unknown

20. Trafficway Flow 0

- (0) Not physically divided (two way traffic)  
 (1) Divided trafficway-median strip without positive barrier  
 (2) Divided trafficway-median strip with positive barrier  
 (3) One way traffic  
 (9) Unknown

21. Number Of Travel Lanes 2

- (1) One  
 (2) Two  
 (3) Three  
 (4) Four  
 (5) Five  
 (6) Six  
 (7) Seven or more  
 (9) Unknown

22. Roadway Alignment 1

- (1) Straight  
 (2) Curve right  
 (3) Curve left  
 (9) Unknown

23. Roadway Profile 2

- (1) Level  
 (2) Uphill grade (> 2%)  
 (3) Hill crest  
 (4) Downhill grade (> 2%)  
 (5) Sag  
 (9) Unknown

24. Roadway Surface Type 1

- (1) Concrete  
 (2) Bituminous (asphalt)  
 (3) Brick or block  
 (4) Slag, gravel, or stone  
 (5) Dirt  
 (8) Other (specify): \_\_\_\_\_  
 (9) Unknown

25. Roadway Surface Condition 2

- (1) Dry  
 (2) Wet  
 (3) Snow or slush  
 (4) Ice  
 (5) Sand, dirt, or oil  
 (8) Other (specify): \_\_\_\_\_  
 (9) Unknown

26. Light Conditions 3

- (1) Daylight  
 (2) Dark  
 (3) Dark, but lighted  
 (4) Dawn  
 (5) Dusk  
 (9) Unknown

27. Atmospheric Conditions 0

- (0) No adverse atmospheric-related driving conditions  
 (1) Rain  
 (2) Sleet/hail  
 (3) Snow  
 (4) Fog  
 (5) Rain and fog  
 (6) Sleet and fog  
 (7) Other (e.g., smog, smoke, blowing sand or dust, etc.) (specify): \_\_\_\_\_  
 (9) Unknown

28. Traffic Control Device 0

- (0) No traffic control(s)  
 (1) Traffic control signal (not RR crossing)

*Regulatory*

- (2) Stop sign  
 (3) Yield sign  
 (4) School zone sign  
 (5) Other regulatory sign (specify): \_\_\_\_\_

(6) \_\_\_\_\_  
 Warning sign (not RR crossing)

- (7) Unknown sign  
 (8) Miscellaneous/other controls including RR controls (specify): \_\_\_\_\_

(9) Unknown

29. Traffic Control Device Functioning 0

- (0) No traffic control device  
 (1) Traffic control device not functioning (specify): \_\_\_\_\_  
 (2) Traffic control device functioning properly  
 (9) Unknown

**PRECRAASH DRIVER RELATED DATA****30. Driver's Distraction/Inattention To Driving** 02  
(Prior To Recognition Of Critical Event)

- (00) No driver present  
 (01) Attentive or not distracted  
 (02) Looked but did not see

*Distractions*

- (03) By other occupant(s), (specify): \_\_\_\_\_  
 (04) By moving object in vehicle (specify): \_\_\_\_\_  
 (05) While talking or listening to cellular phone (specify location and type of phone): \_\_\_\_\_  
 (06) While dialing cellular phone (specify location and type of phone): \_\_\_\_\_  
 (07) While adjusting climate controls  
 (08) While adjusting radio, cassette, CD (specify): \_\_\_\_\_  
 (09) While using other device/object in vehicle (specify): \_\_\_\_\_  
 (10) Sleepy or fell asleep  
 (11) Distracted by outside person, object, or event (specify): \_\_\_\_\_  
 (12) Eating or drinking  
 (13) Smoking related  
 (97) Distracted/inattentive, details unknown  
 (98) Other, distraction (specify): \_\_\_\_\_  
 (99) Unknown

**31. Pre-Event Movement** 11  
(Prior to Recognition of Critical Event)

- (00) No driver present  
 (01) Going straight  
 (02) Decelerating in traffic lane  
 (03) Accelerating in traffic lane  
 (04) Starting in traffic lane  
 (05) Stopped in traffic lane  
 (06) Passing or overtaking another vehicle  
 (07) Disabled or parked in travel lane  
 (08) Leaving a parking position  
 (09) Entering a parking position  
 (10) Turning right  
 (11) Turning left  
 (12) Making a U-turn  
 (13) Backing up (other than for parking position)  
 (14) Negotiating a curve  
 (15) Changing lanes  
 (16) Merging  
 (17) Successful avoidance maneuver to a previous critical event  
 (97) Other (specify): \_\_\_\_\_  
 (99) Unknown

**32. Critical Precrash Event** 15*This Vehicle Loss of Control Due To:*

- (01) Blow out or flat tire  
 (02) Stalled engine  
 (03) Disabling vehicle failure (e.g., wheel fell off) (specify): \_\_\_\_\_  
 (04) Non-disabling vehicle problem (e.g., hood flew up) (specify): \_\_\_\_\_  
 (05) Poor road conditions (puddle, pot hole, ice, etc.) (specify): \_\_\_\_\_  
 (06) Traveling too fast for conditions  
 (08) Other cause of control loss (specify): \_\_\_\_\_  
 (09) Unknown cause of control loss

*This Vehicle Traveling*

- (10) Over the lane line on left side of travel lane  
 (11) Over the lane line on right side of travel lane  
 (12) Off the edge of the road on the left side  
 (13) Off the edge of the road on the right side  
 (14) End departure  
 (15) Turning left at intersection  
 (16) Turning right at intersection  
 (17) Crossing over (passing through) intersection  
 (18) This vehicle decelerating  
 (19) Unknown travel direction

*Other Motor Vehicle In Lane*

- (50) Other vehicle stopped  
 (51) Traveling in same direction with lower steady speed  
 (52) Traveling in same direction while decelerating  
 (53) Traveling in same direction with higher speed  
 (54) Traveling in opposite direction  
 (55) In crossover  
 (56) Backing  
 (59) Unknown travel direction of other motor vehicle in lane

*Other Motor Vehicle Encroaching Into Lane*

- (60) From adjacent lane (same direction)—over left lane line  
 (61) From adjacent lane (same direction)—over right lane line  
 (62) From opposite direction—over left lane line  
 (63) From opposite direction—over right lane line  
 (64) From parking lane  
 (65) From crossing street, turning into same direction  
 (66) From crossing street, across path  
 (67) From crossing street, turning into opposite direction  
 (68) From crossing street, intended path not known  
 (70) From driveway, turning into same direction  
 (71) From driveway, across path  
 (72) From driveway, turning into opposite direction  
 (73) From driveway, intended path not known  
 (74) From entrance to limited access highway  
 (78) Encroachment by other vehicle—details unknown

*Pedestrian, Pedalcyclist, or Other Nonmotorist*

- (80) Pedestrian in roadway  
 (81) Pedestrian approaching roadway  
 (82) Pedestrian—unknown location  
 (83) Pedalcyclist or other nonmotorist in roadway (specify): \_\_\_\_\_  
 (84) Pedalcyclist or other nonmotorist approaching roadway, (specify): \_\_\_\_\_  
 (85) Pedalcyclist or other nonmotorist—unknown location (specify): \_\_\_\_\_

*Object or Animal*

- (87) Animal in roadway  
 (88) Animal approaching roadway  
 (89) Animal—unknown location  
 (90) Object in roadway  
 (91) Object approaching roadway  
 (92) Object—unknown location  
 (98) Other critical precrash event (specify): \_\_\_\_\_  
 (99) Unknown

33. Attempted Avoidance Maneuver 01

- (00) No driver present
- (01) No avoidance maneuver
- (02) Braking (no lockup)
- (03) Braking (lockup)
- (04) Braking (lockup unknown)
- (05) Releasing brakes
- (06) Steering left
- (07) Steering right
- (08) Braking and steering left
- (09) Braking and steering right
- (10) Accelerating
- (11) Accelerating and steering left
- (12) Accelerating and steering right
- (98) Other action (specify): \_\_\_\_\_

(99) Unknown

34. Pre-Impact Stability 1

- (0) No driver present
- (1) Tracking
- (2) Skidding longitudinally—rotation less than 30 degrees
- (3) Skidding laterally—clockwise rotation
- (4) Skidding laterally—counterclockwise rotation
- (7) Other vehicle loss-of-control (specify): \_\_\_\_\_

(9) Precrash stability unknown

35. Pre-Impact Location 1

- (0) No driver present
- (1) Stayed in original travel lane
- (2) Stayed on roadway but left original travel lane
- (3) Stayed on roadway, not known if left original travel lane
- (4) Departed roadway
- (5) Remained off roadway
- (6) Returned to roadway
- (7) Entered roadway
- (9) Unknown

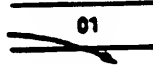


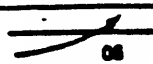

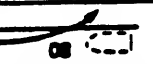



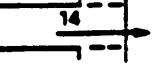



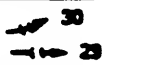
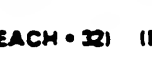
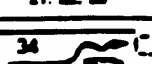
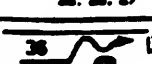


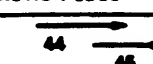
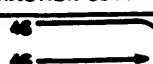
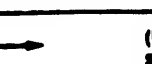
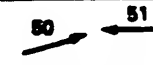


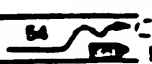


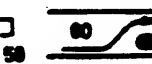




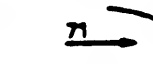
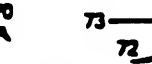

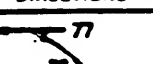
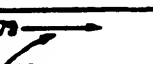
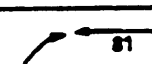

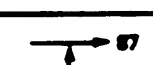


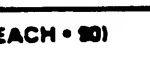
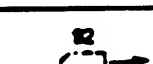
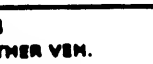



36. Accident Type 82

(Note: Applicable codes on back of this page)

- (00) No impact
- Code the number of the diagram that best describes the accident circumstance
- (98) Other accident type (specify): \_\_\_\_\_

(99) Unknown

**STOP HERE IF GV07 DOES NOT EQUAL 01 - 49**

Category	Configuration	ACCIDENT TYPES (Includes Intent)				
I Single Driver	A Right Roadside Departure	 01 DRIVE OFF ROAD	 02 CONTROL/ TRACTION LOSS	 03 AVOID COLLISION WITH VEH., PED., ANIM.	04 SPECIFICS OTHER	05 SPECIFICS UNKNOWN
	B Left Roadside Departure	 06 DRIVE OFF ROAD	 07 CONTROL/ TRACTION LOSS	 08 AVOID COLLISION WITH VEH., PED., ANIM.	09 SPECIFICS OTHER	10 SPECIFICS UNKNOWN
	C Forward Impact	 11 PARKED VEH.	 12 STA. OBJECT	 13 PEDESTRIAN/ ANIMAL	 14 END DEPARTURE	15 SPECIFICS OTHER 16 SPECIFICS UNKNOWN
II Same Trafficway Same Direction	D Rear-End	 20 STOPPED 21, 22, 23	 22 SLOWER 24, 25, 27	 26 DECEL. 28, 29, 31	 30 SPECIFICS OTHER	 31 SPECIFICS UNKNOWN (EACH - 32) (EACH - 33)
	E Forward Impact	 34 CONTROL/ TRACTION LOSS	 36 CONTROL/ TRACTION LOSS	 38 AVOID COLLISION WITH VEH.	 40 AVOID COLLISION WITH OBJECT	41 SPECIFICS OTHER SPECIFICS UNKNOWN (EACH - 42) (EACH - 43)
	F Sideswipe Angle	 44 SPECIFICS OTHER	 46 SPECIFICS OTHER	 47 SPECIFICS OTHER	(EACH - 48) SPECIFICS OTHER	(EACH - 49) SPECIFICS UNKNOWN
III Same Trafficway Opposite Direction	G Head-On	 50 LATERAL MOVE	 51 SPECIFICS OTHER (EACH - 52)	 53 SPECIFICS UNKNOWN (EACH - 53)		
	H Forward Impact	 54 CONTROL/ TRACTION LOSS	 56 CONTROL/ TRACTION LOSS	 58 AVOID COLLISION WITH VEH.	 60 AVOID COLLISION WITH OBJECT	61 SPECIFICS OTHER SPECIFICS UNKNOWN (EACH - 62) (EACH - 63)
	I Sideswipe Angle	 64 LATERAL MOVE	 65 SPECIFICS OTHER (EACH - 66)	 67 SPECIFICS UNKNOWN (EACH - 67)		
IV Change Trafficway Vehicle Turning	J Turn Across Path	 69 INITIAL OPPOSITE DIRECTIONS	 71 INITIAL SAME DIRECTIONS	 73 SPECIFICS OTHER	 72 SPECIFICS UNKNOWN	(EACH - 74) (EACH - 75)
	K Turn Into Path	 77 TURN INTO SAME DIRECTION	 79 TURN INTO OPPOSITE DIRECTIONS	 81 SPECIFICS OTHER	 82 SPECIFICS UNKNOWN	(EACH - 84) (EACH - 85)
V Intersecting Paths (Vehicle Damage)	L Straight Paths	 87 SPECIFICS OTHER	 88 SPECIFICS UNKNOWN	 89 SPECIFICS OTHER (EACH - 90)	 91 SPECIFICS UNKNOWN (EACH - 91)	
VI Miscellaneous	M Backing Etc	 92 BACKING VEH.	 93 OTHER VEH. OR OBJECT	 94 Other Accident Type	 95 Unknown Accident Type	 96 No Impact

## OCCUPANT RELATED

37. Driver Presence in Vehicle 1  
 (0) Driver not present  
 (1) Driver present  
 (9) Unknown
38. Number of Occupants This Vehicle 03  
 (00-96) Code actual number of occupants for this vehicle  
 (97) 97 or more  
 (99) Unknown
39. Number of Occupant Forms Submitted 03

## AIR BAG RELATED

40. Is this an AOPS Vehicle? 0  
 (0) No (includes unknown)  
 (1) Yes - researcher determined  
 (2) VIN determined air bag system  
 (3) VIN determined automatic (passive) belts  
 (4) VIN determined air bag and automatic (passive) belts
41. Air Bag(s) Deployment, First Seat Frontal 0  
 (0) Not equipped or not available  
 (1) No air bags deployed  
*Single Air Bag Vehicle*  
 (2) Driver air bag deployed  
 (3) Driver air bag, unknown if deployed  
*Multiple Air Bag Vehicle*  
 (4) Driver side only deployed  
 (5) Passenger side only deployed  
 (6) Driver and passenger side deployed  
 (7) Driver and passenger side unknown if deployed  
 (8) Air bag(s) deployed, details unknown  
 (9) Unknown
42. Air Bag(s) Deployment, Other Than First Seat Frontal 0  
 (0) Not equipped with an "other" air bag  
 (1) Deployed during accident (as a result of impact)  
 (2) Deployed inadvertently just prior to accident  
 (3) Deployed, details unknown  
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)  
 (5) Unknown if deployed  
 (7) Nondeployed  
 (9) Unknown

Specify type of "other" air bag present: \_\_\_\_\_

## VEHICLE WEIGHT ITEMS

43. Vehicle Curb Weight 1899 Code weight to nearest 10 kilograms. 1900  
 (045) Less than 450 kilograms  
 (610) 6,100 kilograms or more  
 (999) Unknown  
1 lbs X .4536 = \_\_\_\_\_ kgs  
 Source: \_\_\_\_\_ includes Bumper

44. Vehicle Cargo Weight 9990  
 Code weight to nearest 10 kilograms.  
 (000) Less than 5 kilograms  
 (450) 4,500 kilograms or more  
 (999) Unknown  
 \_\_\_\_\_ lbs X .4536 = \_\_\_\_\_ kgs

Source: \_\_\_\_\_

## ROLLOVER DATA

45. Rollover 00  
 (00) No rollover (no overturning)  
*Rollover (primarily about the longitudinal axis)*  
 (01-16) Code the number of quarter turns  
 (17) Rollover, 17 or more quarter turns (specify): \_\_\_\_\_  
 (98) Rollover--end-over-end (i.e., primarily about the lateral axis)  
 (99) Rollover (overturn), details unknown
46. Rollover Initiation Type 00  
 (00) No rollover  
 (01) Trip-over  
 (02) Flip-over  
 (03) Turn-over  
 (04) Climb-over  
 (05) Fall-over  
 (06) Bounce-over  
 (07) Collision with another vehicle  
 (08) Other rollover initiation type specify): \_\_\_\_\_  
 (98) Rollover--end-over-end  
 (99) Unknown rollover initiation type
47. Location of Rollover Initiation 0  
 (0) No rollover  
 (1) On roadway  
 (2) On shoulder--paved  
 (3) On shoulder--unpaved  
 (4) On roadside or divided trafficway median  
 (8) Rollover--end-over-end  
 (9) Unknown
48. Rollover Initiation Object Contacted 00  
 (Note: Applicable codes on back of page)
49. Location on Vehicle Where Initial Principal Tripping Force Is Applied 0  
 (0) No rollover  
 (1) Wheels/tires  
 (2) Side plane  
 (3) End plane  
 (4) Undercarriage  
 (5) Other location on vehicle (specify): \_\_\_\_\_  
 (6) Non-contact rollover forces (specify): \_\_\_\_\_  
 (8) Rollover--end-over-end  
 (9) Unknown
50. Direction of Initial Roll 0  
 (0) No rollover  
 (1) Roll right - primarily about the longitudinal axis  
 (2) Roll left - primarily about the longitudinal axis  
 (8) Rollover--end-over-end  
 (9) Unknown roll direction



**OVERRIDE/UNDERRIDE (THIS VEHICLE)**

51. Front Override/Underride (this Vehicle) 0
52. Rear Override/Underride (this Vehicle) 0
- (0) No override/underride, or not an end-to-end impact between two CDS applicable vehicles, and no medium/heavy truck or bus underride
- Override (see specific CDC)*  
*[Between 2 CDS applicable vehicles (Bodytype, GV07 = 1-49)]*
- (1) 1st CDC  
 (2) 2nd CDC  
 (3) Other not automated CDC (specify):  
 \_\_\_\_\_
- Underride (see specific CDC)*  
*[Between 2 CDS applicable vehicles (Bodytype, GV07 = 1-49)]*
- (4) 1st CDC  
 (5) 2nd CDC  
 (6) Other not automated CDC (specify):  
 \_\_\_\_\_
- (7) Medium/heavy truck or bus override (of any configuration)  
 (9) Unknown

**HEADING ANGLE AT IMPACT FOR HIGHEST DELTA V**

Values: (000)-(359) Code actual value  
 (997) Noncollision  
 (998) Impact with object  
 (999) Unknown

53. Heading Angle For This Vehicle 183
54. Heading Angle For Other Vehicle 290

**RECONSTRUCTION DATA**

55. Towed Trailing Unit 0
- (0) No towed unit  
 (1) Yes—towed trailing unit  
 (9) Unknown
56. Documentation of Trajectory Data for This Vehicle 1
- (0) No  
 (1) Yes
57. Post Collision Condition of Tree or Pole (For Highest Delta V) 0
- (0) Not collision (for highest delta V) with tree or pole  
 (1) Not damaged  
 (2) Cracked/sheared  
 (3) Tilted < 45 degrees  
 (4) Tilted ≥ 45 degrees  
 (5) Uprooted tree  
 (6) Separated pole from base  
 (7) Pole replaced  
 (8) Other (specify):  
 \_\_\_\_\_
- (9) Unknown

**ACCIDENT RECONSTRUCTION PROGRAMS HIGHEST DELTA V**

58. Basis for Total (Resultant) Delta V (highest) 01
- (00) No vehicle inspection
- Delta V Calculated*
- (01) Reconstruction program  
 -damage only routine  
 (02) Reconstruction program  
 -damage and trajectory routine  
 (03) Missing vehicle algorithm
- Delta V Not Calculated*
- (04) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.
- All vehicles within scope (CDC applicable) of reconstruction program but one of the collision conditions is beyond the scope of the reconstruction program or other acceptable reconstruction technique, regardless of adequacy of damage data.*
- (05) Rollover  
 (06) Other non-horizontal forces  
 (07) Sideswipe type damage  
 (08) Severe override  
 (09) Yielding object  
 (10) Overlapping damage  
 (11) All vehicle and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available, (specify):  
 \_\_\_\_\_
- (98) Other, (specify):  
 \_\_\_\_\_

## COMPUTER GENERATED CRASH SEVERITY

59. Total Delta V

29 Nearest kmph (highest)       Nearest kmph (secondary)

(NOTE: 000 means less than 0.5 kmph)  
 (160) 159.5 kmph and above  
 (999) Unknown

60. Longitudinal Component of Delta V

-15 Nearest kmph (highest)       Nearest kmph (secondary)

(NOTE:   000 means greater than  
 -0.5 kmph and less than +0.5 kmph)  
 (±160) ±159.5 kmph and above  
 (  999) Unknown

61. Lateral Component of Delta V

+25 Nearest kmph (highest)       Nearest kmph (secondary)

(NOTE:   000 means greater than -0.5 kmph  
 and less than +0.5 kmph)  
 (±160) ±159.5 kmph and above  
 (  999) Unknown

62. Energy Absorption

12276 Nearest 100 joules (highest)       Nearest 100 joules (secondary)

(NOTE: 0000 means less than 50 joules)  
 (9997) 999,650 joules or more  
 (9999) Unknown

63. Impact Speed

       Nearest kmph (highest)       Nearest kmph (secondary)

(NOTE: 000 means less than 0.5 kmph)  
 (160) 159.5 kmph and above  
 (998) Trajectory algorithm not run  
 (999) Unknown

## DELTA V CONFIDENCE LEVEL

64. Confidence In Reconstruction Program Results (For Highest Delta V)

- (0) No reconstruction 1  
 (1) Collision fits model — results appear reasonable  
 (2) Collision fits model — results appear high  
 (3) Collision fits model — results appear low  
 (4) Borderline reconstruction — results appear reasonable

## OTHER SPEED ESTIMATE

65. Barrier Equivalent Speed

29 Nearest kmph (highest)       Nearest kmph (secondary)

(NOTE: 000 means less than 0.5 kmph)  
 (160) 159.5 kmph and above  
 (999) Unknown

-14 Longitudinal

IS MISSING VEHICLE ALGORITHM APPLICABLE FOR THIS VEHICLE? [ ] YES [X] NO

IF YES: IS A COMPLETED PROGRAM SUMMARY INCLUDED? [ ] YES [ ] NO

ESTIMATED DELTA V	VEHICLE INSPECTION
<p>66. Estimated Highest Delta V (Researcher Determined) <u>0</u></p> <p>(0) Reconstruction Delta V coded</p> <p><i>Estimated Delta V</i></p> <p>(1) Less than 10 kmph</p> <p>(2) <math>\geq 10</math> kmph but <math>&lt; 25</math> kmph</p> <p>(3) <math>\geq 25</math> kmph but <math>&lt; 40</math> kmph</p> <p>(4) <math>\geq 40</math> kmph but <math>&lt; 55</math> kmph</p> <p>(5) <math>\geq 55</math> kmph</p> <p><i>Other estimates of damage severity</i></p> <p>(6) Minor</p> <p>(7) Moderate</p> <p>(8) Severe</p> <p>(9) Unknown</p>	<p>67. Type of Vehicle Inspection <u>2</u></p> <p>(0) No inspection</p> <p>(1) Vehicle fully repaired-no damage evident</p> <p>(2) Partial inspection (specify): <u>from 3rd party</u></p> <p>(3) Complete inspection <u>Exterior only</u></p>

\*\*\* IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV67=0), \*\*\*

DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS

\*\*\* IF GV07 DOES NOT EQUAL 01-49, DO NOT COMPLETE \*\*\*

THE EXTERIOR VEHICLE, INTERIOR VEHICLE,  
OCCUPANT ASSESSMENT, AND OCCUPANT INJURY FORMS.

## EXTERIOR VEHICLE FORM

**NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM**

1. Primary Sampling Unit Number	<u>10</u>	3. Vehicle Number	<u>02</u>
2. Case Number - Stratum	<u>9510</u>		

## VEHICLE IDENTIFICATION

VIN 1FTEX15H3LK \_\_\_\_\_ Model Year 90  
 Vehicle Make (specify): FORD Vehicle Model (specify): F150 XLT LARIÁ

## LOCATOR

**Locate the end of the damage with respect to the vehicle longitudinal center line or bumper corner for end impacts or an undamaged axle for side impacts.**

Specific Impact No.	Location of Direct Damage	Location of Field L	Location of Max Crush
01	Ⓛ BC BACK 100.5	A-PILLAR FORWARD	C-6
02	UNK	UNK	

### CRUSH PROFILE IN CENTIMETERS

NOTES: Identify the plane at which the C-measurements are taken (e.g., at bumper, above bumper, at sill, above sill, etc.) and label adjustments (e.g., free space).

**Measure C1 to C6 from driver to passenger side in front or rear impacts and rear to front in side impacts.**

Free space value is defined as the distance between the baseline and the original body contour taken at the individual C locations. This may include the following: bumper lead, bumper taper, side protrusion, side taper, etc. Record the value for each C-measurement and maximum crush.

**Use as many lines/columns as necessary to describe each damage profile.**

[illegible]

# ORIGINAL SPECIFICATIONS WORK SHEET

Wheelbase 138.8 inches x 2.54 = 353 cm  
 Overall Length 216.1 <sup>without bumper</sup> inches x 2.54 = 549 cm  
 Maximum Width 79. inches x 2.54 = 201 cm  
 Curb Weight 4,135 <sup>+Bumper</sup> pounds x 0.4536 = 1,876 kg  
 Average Track        inches x 2.54 =        cm  
 Front Overhang 30.5 inches x 2.54 = 77.5 cm  
 Rear Overhang        inches x 2.54 = 134 cm <sup>+Bumper</sup>  
 Undeformed End Width        inches x 2.54 =        cm  
 Engine Size: cyl/displ.        cc x 0.001 = 5.8 L  
 V8 5.8L        CID x 0.0164 =        L

WB(met) 338    WB(us) 133    OAL(us) 210.2    REAR Bumper 15cm + 534 = 549    OAL(metec) 501cm + 549 = 564  
 Gasoline Truck Index 138.8    216.1    501cm 23kg  
 Curb Weight 1876 + 23 = 1899

## SPECIAL CRASH INVESTIGATION ADDENDUM

Submodel Designation: {specify} XLT Color: {specify} Black Repair Cost: \$

Transmission: {circle} Automatic | Manual Speed: 3-speed | 4-speed | 5-speed | Other:

Steering: {circle} Power-assisted | Manual Type: rack-and-pinion | worm-and-gear | Other  
{please describe}:

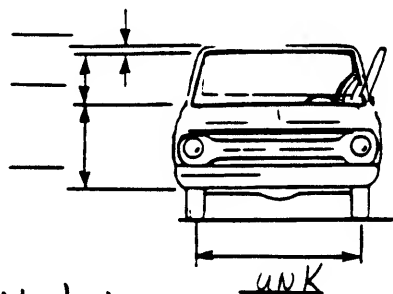
Brakes: {circle} Power-assisted | Manual Type: 4-wheel disc | 4-wheel drum | 4-wheel hydraulic  
front disc, rear drum | Other:

Observed Defects: {specify}

Fleet Type: {circle} Private vehicle | Rental vehicle | Leased vehicle | Commercial vehicle | Other  
{please describe}:

## VEHICLE DAMAGE SKETCH

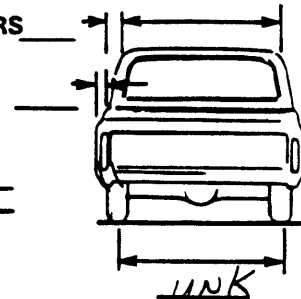
<b>TIRE—WHEEL DAMAGE</b> a. Rotation physically restricted    b. Tire deflated RF <u>1</u> RF <u>2</u> LF <u>1</u> LF <u>1</u> RR <u>2</u> RR <u>2</u> LR <u>2</u> LR <u>2</u> (1) Yes (2) No (8) NA (9) Unk.		<b>ORIGINAL SPECIFICATIONS</b> Wheelbase <u>353</u> cm Overall Length w/Bumper <u>564</u> cm Maximum Width <u>201</u> cm Curb Weight w/Bumper <u>1899</u> kg Average Track _____ cm Front Overhang <u>77.5</u> cm Rear Overhang w/Bumper <u>149</u> cm Undeformed End Width <u>188</u> cm Engine Size: cyl./displ. <u>5.8</u> L		<b>WHEEL STEER ANGLES</b> (For locked front wheels or displaced rear axles only) RF ± _____ ° LF ± _____ ° RR ± _____ ° LR ± _____ ° Within ± 5 degrees
<b>TYPE OF TRANSMISSION</b> <input type="checkbox"/> Manual <input type="checkbox"/> Automatic		<b>DRIVE WHEELS</b> <input type="checkbox"/> FWD <input checked="" type="checkbox"/> RWD <input type="checkbox"/> 4WD		
		Approximate Cargo Weight _____ kg		



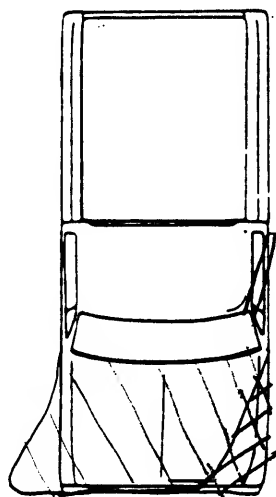
MEASUREMENTS IN CENTIMETERS

To P of Door pulled out for extraction

Original Bumper height

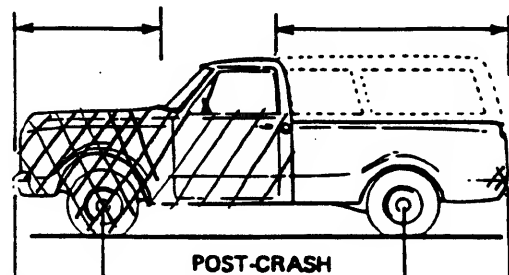


NOTE: Sketch from photos.  
All MEAS. and photos taken by private AR Firm.



shift ←

Top of door pulled away extraction DAMAGE



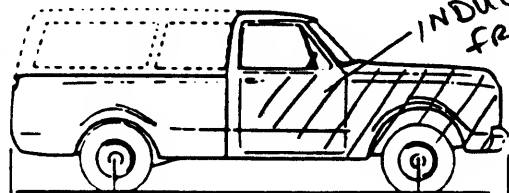
SIDE SLAP

Bumper corner 71.6  
Stringline UNK

POST-CRASH

338

Bumper corner UNK  
Stringline UNK



INDUCED from opening door

Bumper corner UNK  
Stringline UNK

POST-CRASH

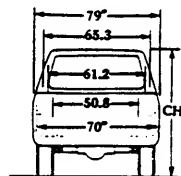
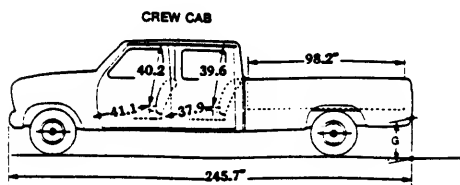
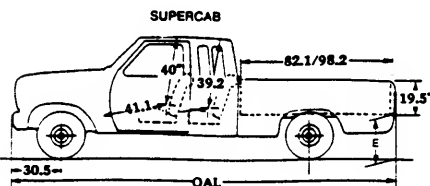
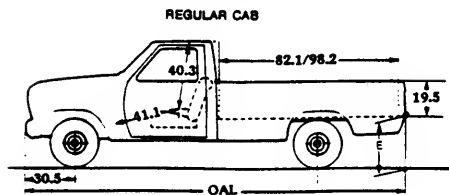
UNK

Bumper corner UNK  
Stringline UNK

NOTES: Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of striations, scuff on sidewalls, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.

Annotate any damage caused by extrication such as component removal by torching, prying, or hydraulic shears.

# FORD F-150, 250, 350 SERIES



## GASOLINE TRUCK INDEX

42 - 1990

### FORD F-150 SERIES

**CLUTCH:** w/4.9L eng., 10" dia., Woven Non-Asbestos lining, 95. sq.in. facing area. Optional: 11" dia. 47.7 sq.in. facing area.

**COOLING SYSTEM:** w/4.9L eng., 13 qt. system, 510.5 sq. in. frontal area radiator, 5-blade 18.5" dia. fan.

**DRIVE LINE:** Tubular shafts, needle bearing universal joints.

**ELECTRICAL SYSTEM:** 12 volt system; 60 amp. 900 watt alternator 72 amp/hr 650 CCA Maintenance Free battery.

**FRAME:** 36,000 psi steel single channel; w/116.8" & 133" wbs. 6.93 x 2.19 x 0.146 side rails, 3.21 section modulus; w/138.8" wb., 6.81 x 2.29 x 0.160 side rails, 3.35 sm; w/155" wb., 6.8 x 2.29 x 0.180 side rails, 3.79 sm.

**FUEL TANK:** w/116.8" wb. Reg.Cab & 138.8" wb. Supercab, 34. gal. Aft-of-axle/midship mtd. dual tanks; w/133" wb. Reg.Cab & 155" wb. Supercab, 37.2 gal. midship/Aft-of-Axle mtd. dual tanks. Optional: 18.2 gal. single aft-of-axle tank, only.

**STEERING:** Ford XR-50 recirculating ball power steering, ratio 17:1. Optional: Speed control/tilt steering wheel.

**SUSPENSION:** Front - Computer selected coil springs, 4" dia. w/116.8" wb. capacity at ground 1150 lbs. each; w/133" wb. 1250 lbs. each; w/138.8" wb., 1362.5 lbs. each; w/155" wb. 1437.5 lbs. each. Rear - w/116.8" & 133" wb., 2-stage Variable rate, 56 x 2.5" 4-leaf springs, capacity at ground 1595 lbs. each; w/138.8" & 155" wbs., 2-stage, Variable rate 56 x 2.5" 5-leaf, 1900 lbs. each. Optional: Front - w/116.8" wb., 1250, 1325, 1400, or 1475 lb. ea. @ grd. coil springs w/133" wb., 1325, 1400, 1475, 1550, 1625, or 1725 lb. ea. @ grd. coil springs; w/138.8" wb., 1437.5, 1512.5, 1587.5, or 1687.5 lbs. ea. at grd. coil springs; w/155" wb., 1437.5 1512.5, 1587.5, 1687.5, or 1762.5 lb. ea. at grd. coil springs Rear - 56 x 2.5 leaf springs: w/133" wb. w/payload pkg. #2 5-leaf 1900 lbs. ea. @ ground. Auxiliary rear spring: 38.1 : 2.5, 1-leaf, 400 lb. capacity at pad each.

**TRANSMISSION:** w/4.9L & 5.0L engines, Mazda, 5-speed manual w/OD fully synchronized, 3.90, 2.25, 1.49, 1.00, .80, reverse 3.41 Optional: w/all engs., Ford E40D 4-sp Auto. w/OD; w/4.9L & 5.0 eng., Warner T-18, 4-speed manual; w/5.0L & 5.8L engs., For A40D, 4-sp. Auto. w/OD.

**WHEELS AND TIRES:** w/Regular Cab - P215/75R-15SL front, single rear and spare tubeless tires on 15 x 6" JK rims, 5-hole disc wheels; w/Supercab - P235/75R-15XL front, single rear and spare tubeless tires on 15 x 6.0 JK rims, 5-hole disc wheels Optional: w/Regular Cab & Payload pkg.#2, P235/75R-15XL tire required at extra cost.

## GASOLINE TRUCK INDEX

44 - 1990

# FORD F-150 SERIES

BEST AVAILABLE COPY

GVW Ratings: 5,250-6,250 Lbs.

**ENGINE:** Standard: 4.9L\* (300) EFI I-6, 145 NHP @ 3600  
Optional: 4.9L† (300) EFI I-6, 150 NHP @ 3400  
5.0L (302) EFI V-8, 185 NHP @ 3800 RPM.  
5.8L (351) EFI V-8, 210 NHP @ 3800 RPM.  
**Calif Engines:** 4.9L (300)EFI I-6, 145 NHP @ 3400  
4.9L (300)EFI I-6, 150 NHP @ 3400  
5.0L (302) EFI V-8, 185 NHP @ 3800 RPM.  
5.8L (351) EFI V-8, 210 NHP @ 3800 RPM.  
\* 145 NHP w/std. 3.08 axle ratio † 150 NHP w/3.55 ratio.

**MODELS AVAILABLE:** Reg. Cab - 116.8" wb. Styleside, 6' 9" box.  
Reg. Cab - 133" wb. Styleside Pickup, 8' box.  
Super Cab - 138.8" wb. Styleside, 6' 9" box.  
Super Cab - 155" wb. Styleside Pickup, 8' box.

GVW RATING	MINIMUM EQUIPMENT REQUIRED FOR GVW RATING
5,250	Standard - 116.8" wb. Reg. Cab, 1,480 lb. Payload
5,450	Standard - 133" wb. Reg. Cab, 1,575 lb. Payload
6,050	Standard - 138.8" wb. Supercab, 1,915 lb. Payload
6,250	Standard - 155" wb. Supercab, 1,995 lb. Payload
6,250	133"wb. Reg.Cab w/Payload Pkg.#2 (2,360 lb.) incl 1,900 lb. ea. rear springs; Req.P235/75RXL tires

CURB WEIGHTS & DIMENSIONS:	(Std. equip., fuel, water, & oil)
WB	IL CH OAL Front Rear Total TurnDia
116.8 Reg.	82.1 69.8 194.1 2,126 1,643 3,769 42.25'
133 Reg.	98.2 69.9 210.2 2,235 1,639 3,874 47.01'
138.8 Super	82.1 72.1 216.1 2,317 1,818 4,135 48.71'
155 Super	98.3 71.9 232.2 2,417 1,835 4,252 53.48'

## GENERAL SPECIFICATIONS

**FRONT AXLE:** Ford, Twin I-beam, rated capacity 3,400 lbs.

**REAR AXLE:** Ford, semi-floating, single reduction, hypoid, rated cap. 3,800 lbs, 3.08 ratio. Optional: 3.55 ratios; Limited Slip differential.

**SERVICE BRAKES:** Dual hydraulic, Power, self-adjusting, 11.7" OD single diaphragm vacuum booster; 11.72" OD single piston floating caliper rotor disc front brakes, 33.08 sq.in. lining area; 11.03 x 2.25" drum rear, 97.06 sq.in. lining area; Rear anti-lock brake system.

**PARKING BRAKE:** Cable actuation of rear brakes, foot-operated.

## GASOLINE TRUCK INDEX

1990 - 43

### FORD F-150 SERIES

**STANDARD EQUIPMENT:** Regular or Super cab with Custom trim; Dry type air cleaner; Emission control system; 1" front and rear shock absorbers; Underframe at rear spare tire carrier; Chrome front bumper; 2-speed elec. windshield wipers & washer; Front 3-passenger bench seat (rear bench seat w/Supercab); Tinted Glass; Dual black fold-away side mirrors; AM radio.

**OPTIONAL EQUIPMENT:** Increased capacity elec. & cooling systems; Air conditioning; 1.19" dia. HD shocks; Convenience group; XL trim pkg.; XLT Lariat trim pkg.; Sliding rear window; Captains chairs w/Supercab; Delete rear seat w/Supercab; Rear Jump seats w/Supercab; Handling pkg.; HD Rear Susp. pkg., includes HD shocks and Aux. rear springs; Wheel covers; Rear Step bumper; Trailer Towing/Camper pkg.; Headliner & Insulation pkg. (Std. w/Supercab); In-box spare tire carrier; Stereo radio equip.; Pickup box removal option for alternate body unit application.

## FORD F-150 SERIES 4-WHEEL DRIVE

GW Ratings: 6,100-6,250 Lbs.

**ENGINE:** Standard: 4.9L\* (300) EFI I-6, 145 NHP @ 3600  
Optional: 4.9L (300) EFI I-6, 150 NHP @ 3400  
5.0L (302) EFI V-8, 185 NHP @ 3800 RPM.  
5.8L (351) EFI V-8, 210 NHP @ 3800 RPM.  
**Calif Engines:** 4.9L (300)EFI I-6, 150 NHP @ 3400  
5.0L (302) EFI V-8, 185 NHP @ 3800 RPM.  
5.8L (351) EFI V-8, 210 NHP @ 3800 RPM.  
\* 145 NHP w/3.08 axle ratio - 150 NHP w/other applications

**MODELS AVAILABLE:** Reg. Cab - 116.8" wb. Styleside, 6' 9" box  
Reg. Cab - 133" wb. Styleside Pickup, 8' box  
SuperCab - 138.8" wb. Styleside, 6' 9" box  
SuperCab - 155" wb. Styleside Pickup, 8' box

GVW RATING	MINIMUM EQUIPMENT REQUIRED FOR GVW RATING
6,100	Standard - 116.8" wb. Reg.Cab, 2,175 lb. Payload
6,250	Standard - 133" wb. Reg.Cab, 2,090 lb. Payload
6,250	Standard - 138.8" wb. Supercab, 1,900 lb. Payload
6,250	Standard - 155" wb. Supercab, 1,775 lb. Payload

## GASOLINE TRUCK INDEX

1990 - 45





## COLLISION DEFORMATION CLASSIFICATION

## HIGHEST DELTA "V"

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force	(3) Deformation Location	(4) Longitudinal or Lateral Location	(5) Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
4. <u>01</u>	5. <u>01</u>	6. <u>10</u>	7. <u>L</u>	8. <u>F</u>	9. <u>E</u>	10. <u>W</u>	11. <u>05</u>

## Second Highest Delta "V"

12. <u>02</u>	13. <u>01</u>	14. <u>09</u>	15. <u>L</u>	16. <u>B</u>	17. <u>L</u>	18. <u>W</u>	19. <u>01</u>
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## CRUSH PROFILE IN CENTIMETERS

The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. (ALL MEASUREMENTS ARE IN CENTIMETERS.)

## HIGHEST DELTA "V"

20. L	21. C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	C <sub>6</sub>	22. ±D
<u>122</u>	<u>000</u>	<u>011</u>	<u>052</u>	<u>076</u>	<u>074</u>	<u>092</u>	<u>⊕ 190</u>

## Second Highest Delta "V"

23. L	24. C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	C <sub>6</sub>	25. ±D
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

26. Undeformed End Width  
(Coded when highest severity impact is an end plane impact.) 188  
\_\_\_\_\_ Code to the nearest centimeter  
(250) 250 centimeters or more  
(998) No highest severity end plane impact  
(999) Unknown

27. Direct Damage Width  
(For highest severity impact) 101  
\_\_\_\_\_ Code to the nearest centimeter  
(250) 250 centimeters or more  
(999) Unknown

28. Original Wheelbase 353  
\_\_\_\_\_ Code to the nearest centimeter  
(650) 650 centimeters or more  
(999) Unknown  
\_\_\_\_\_ inches X 2.54 = \_\_\_\_\_ centimeters

29. Original Average Track Width 999  
\_\_\_\_\_ Code to the nearest centimeter  
(185) 185 centimeters or more  
(999) Unknown  
\_\_\_\_\_ inches X 2.54 = \_\_\_\_\_ centimeters

## FUEL SYSTEM

30. Are CDCs Documented  
but Not Coded on The  
Automated File?

- (0) No  
(1) Yes

31. Researcher's Assessment of Vehicle  
Disposition

- (0) Not towed due to vehicle damage  
(1) Towed due to vehicle damage  
(9) Unknown

32. Is This A Multi-Stage Manufactured Vehicle  
And/Or A Certified Altered Vehicle?

- (0) No post manufacturer modifications  
(1) Yes - post manufacturer modifications  
(specify): \_\_\_\_\_

(Include photograph of CERTIFICATION  
PLACARD in case report)

- (9) Unknown if vehicle is modified

## FIRE OCCURRENCE

33. Fire Occurrence

- (0) No fire

Yes, fire occurred

- (1) Minor  
(2) Major  
(9) Unknown

34. Origin of Fire

- (0) No fire  
(1) Vehicle exterior (front, side, back, top)  
(2) Exhaust system  
(3) Fuel tank (and other fuel retention  
system parts)  
(4) Engine compartment  
(5) Cargo/trunk compartment  
(6) Instrument panel  
(7) Passenger compartment area  
(8) Other location (specify): \_\_\_\_\_

- (9) Unknown

35. Location of Fuel Tank-1 Filler Cap

36. Location of Fuel Tank-2 Filler Cap

- (0) No fuel tank  
(1) On back plane  
(2) Aft of center of the rear wheels (rear axle)  
on left side plane  
(3) Aft of center of the rear wheels (rear axle)  
on right side plane  
(4) Forward of center of the rear wheels (rear  
axle) on left side plane  
(5) Forward of center of the rear wheels (rear  
axle) on right side plane  
(6) Over the center of the rear wheels (rear  
axle) on left side plane  
(7) Over the center of the rear wheels (rear  
axle) on right side plane  
(8) Other (specify): \_\_\_\_\_  
(9) Unknown

37. Type of Fuel Tank-1

38. Type of Fuel Tank-2

- (0) No fuel tank (electrical vehicle)  
(1) Metallic  
(2) Non-metallic  
(9) Unknown

39. Location of Fuel Tank-1

40. Location of Fuel Tank-2

- (0) No fuel tank  
(1) Aft of center of the rear wheels (rear axle)  
centered  
(2) Aft of center of the rear wheels (rear axle)  
left side  
(3) Aft of center of the rear wheels (rear axle)  
right side  
(4) Forward of center of the rear wheels (rear  
axle) centered  
(5) Forward of center of the rear wheels (rear  
axle) left side  
(6) Forward of center of the rear wheels (rear  
axle) right side  
(7) Over center of the rear wheels (rear axle)  
(8) Other (specify): \_\_\_\_\_  
(9) Unknown

41. Damage to Fuel Tank-1

42. Damage to Fuel Tank-2

- (0) No fuel tank  
(1) No damage to fuel tank  
(2) Deformed, no seam failure  
(3) Deformed, with a seam failure  
(4) Punctured  
(5) Lacerated (ripped)  
(6) Abraded (scraped)  
(7) Filler neck separation from the fuel tank  
(8) Other damage (specify): \_\_\_\_\_  
(9) Unknown

PER  
PRINT  
FIRM

43. Leakage Location of Fuel System-1 144. Leakage Location of Fuel System-2 0

- (0) No fuel tank  
(1) No fuel leakage

*Primary Area Of Leakage*

- (2) Tank  
(3) Filler neck  
(4) Cap  
(5) Lines/pump/filter  
(6) Vent/emission recovery  
(8) Other (specify): \_\_\_\_\_  
(9) Unknown

45. Fuel Type-1 0146. Fuel Type-2 00*Single Fuel Type*

- (00) No fuel tank  
(01) Gasoline  
(02) Diesel  
(03) CNG (Compressed Natural Gas)  
(04) LPG (Liquid Petroleum Gas) also known as Propane  
(05) LNG (Liquid Natural Gas)  
(06) Methanol (M100 or M85)  
(07) Ethanol (E100 or E85)  
(08) Other (Hydrogen or others) (specify): \_\_\_\_\_

*Electric Powered or Electric/Solar Powered Vehicles*

- (10) Lead Acid Battery  
(11) Nickel-Iron Battery  
(12) Nickel-Cadmium Battery  
(13) Sodium Metal Chloride Battery  
(14) Sodium Sulfur Battery  
(18) Other (Specify): \_\_\_\_\_

(98) Other Hybrid (specify): \_\_\_\_\_

(99) Unknown fuel type

47. Is This Vehicle Equipped With More Than Two Fuel Tanks? 0

(0) No (one or two tanks only)

*Yes - More Than Two Tanks*

- (1) Yes -- no damage to any tank or filler cap and no fuel system leakage  
(2) Yes -- no damage to any tank or filler cap but there is fuel system leakage (specify leakage location): \_\_\_\_\_  
(3) Yes -- damage to an additional tank or filler cap and there is fuel system leakage (specify the following):  
Type of tank \_\_\_\_\_  
Tank location \_\_\_\_\_  
Filler cap location \_\_\_\_\_  
Tank damage \_\_\_\_\_  
Location of leakage \_\_\_\_\_  
Type of fuel \_\_\_\_\_  
(9) Unknown if more than two tanks

**COMMENTS**


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\*\*\* STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT TOWED \*\*\*

(GV10=0)

DO NOT COMPLETE THE INTERIOR VEHICLE FORM.

**Appendix F:**

**NASS CDS INTERVIEW FORM:**

**CASE VEHICLE DRIVER AND RIGHT FRONT PASSENGER**



## INTERVIEW FORM (A)

1. Primary Sampling Unit Number <u>10</u>	Interviewee(s) Role or Name(s): <u>DRIVER</u>
2. Case Number - Stratum <u>9510</u>	
3. Vehicle Number <u>01</u>	

Review all available information and interview questions prior to conducting interview(s) to ensure the acquisition of all pertinent data.

If the driver was not the person interviewed, was an appointment made for a follow-up interview?

### DRIVER'S DESCRIPTION OF ACCIDENT EVENTS

We were W/B on in center lane  
all the sudden I remember trucks Hood  
coming into us.

I don't remember the SIDE SLP I do  
Remember trying to keep CAR from  
going off the (R) SIDE of ROAD then  
we went down embankment to a stop

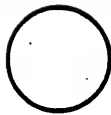
### OCCUPANT'S DESCRIPTION OF ACCIDENT EVENTS

going West truck came out of nowhere. I screamed  
my husband's name and put my (R) Hand out in front of  
me We hit and hit AGAIN I remember being jerked  
hard to the (R) during 2ND Hit. At Final Rest the FIRE  
Dept tied one of their ropes on our bumper to keep us

### SPECIFIC QUESTIONS TO ASK INTERVIEWEE

from going down Hill farther

## ACCIDENT DIAGRAM



NORTH

The use of this diagram is optional. It may serve to aid in relating interviewee accident trajectory data (i.e., pre-impact to FRP orientations) to identifiable objects in the environment.

## CRASH DATA INFORMATION

## IF POSSIBLE OBTAIN THIS INFORMATION FROM THE DRIVER:

SOURCE OF INFORMATION:	<input checked="" type="checkbox"/> Driver <input type="checkbox"/> Other occupant <input type="checkbox"/> Relative/friend
In which direction were you traveling?	<input type="checkbox"/> North <input type="checkbox"/> South <input type="checkbox"/> East <input checked="" type="checkbox"/> West (Or where were they coming from or going to?)
What lane were you in?	<input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> Other Note: lane 1 is the right curb lane
What was the condition of the roadway?	<input type="checkbox"/> Dry <input type="checkbox"/> Wet <input type="checkbox"/> Snow <input type="checkbox"/> Slush <input type="checkbox"/> Ice <input type="checkbox"/> Sand, dirt, oil <input type="checkbox"/> Other (specify) <b>DAMP-THUNDERSTORM EARLIER</b>
What was the weather like? (Check all that apply)	<input checked="" type="checkbox"/> No adverse conditions <input type="checkbox"/> Rain <input type="checkbox"/> Fog <input type="checkbox"/> Sleet <input type="checkbox"/> Hail <input type="checkbox"/> Snow <input type="checkbox"/> Other (specify)
Was there any type of sign or signal present?  (check all that apply)	<input type="checkbox"/> Traffic control signal (includes flashing beacons, lane control signals, and green / amber / red signal) <input type="checkbox"/> Stop sign <input type="checkbox"/> Yield sign <input type="checkbox"/> School zone sign <input type="checkbox"/> Other regulatory sign (No "U" turn, left turn only, wrong way, etc.) specify: <input type="checkbox"/> Warning sign (Winding road sign, stop ahead, intersection signs, etc.) specify: <input type="checkbox"/> Miscellaneous control (including railroad controls) specify: _____ <input checked="" type="checkbox"/> None <input type="checkbox"/> Unknown
If a traffic control device was present, was it functioning properly at the time of the crash?	<input checked="" type="checkbox"/> No traffic control device present <input type="checkbox"/> Not functioning properly (includes defaced, badly worn, covered with snow, rotated etc.) specify: <input type="checkbox"/> Functioning properly <input type="checkbox"/> Unknown
Can you estimate your travel speed before the crash? (in mph)	<input type="checkbox"/> Stopped <input type="checkbox"/> 11-20 <input type="checkbox"/> 31-40 <input checked="" type="checkbox"/> 51-60 <b>55</b> <input type="checkbox"/> 70+ <input type="checkbox"/> 1-10 <input type="checkbox"/> 21-30 <input type="checkbox"/> 41-50 <input type="checkbox"/> 61-70 <input type="checkbox"/> Unknown
Just before the crash, what were you doing or intending to do? (check all that apply)	<input checked="" type="checkbox"/> Going straight <input type="checkbox"/> Stopped <input type="checkbox"/> Turning left <input type="checkbox"/> Turning right <input type="checkbox"/> Slowing <input type="checkbox"/> Accelerating <input type="checkbox"/> Backing <input type="checkbox"/> Changing lanes to right <input type="checkbox"/> Other (specify): <input type="checkbox"/> Changing lanes to left
Did vehicle lose control due to weather or mechanical problems?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes (describe)
Did driver take avoidance actions? <input type="checkbox"/> Yes (Check all that apply) → <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	<input type="checkbox"/> Braking with lock-up <input type="checkbox"/> Accelerating <input type="checkbox"/> Other (specify): <input type="checkbox"/> Braking without lock-up <input type="checkbox"/> Steering left <input type="checkbox"/> Releasing brakes <input type="checkbox"/> Steering right <b>NO CHANCE</b>
Where was vehicle at time of collision?	<input checked="" type="checkbox"/> Original travel lane <input type="checkbox"/> Different travel lane <input type="checkbox"/> In intersection <input type="checkbox"/> Off roadway to right <input type="checkbox"/> Off roadway to left <input type="checkbox"/> Other (specify): _____
Can you estimate your travel speed at the time of collision? (in mph)	<input type="checkbox"/> Stopped <input type="checkbox"/> 11-20 <input type="checkbox"/> 31-40 <input checked="" type="checkbox"/> 51-60 <b>55</b> <input type="checkbox"/> 70+ <input type="checkbox"/> 1-10 <input type="checkbox"/> 21-30 <input type="checkbox"/> 41-50 <input type="checkbox"/> 61-70 <input type="checkbox"/> Unknown
Describe all the impacts to the vehicle, including what the vehicle contacted and how this vehicle moved to its stopped position, after the collision?	<b>Husband doesn't recall sideslap wife remembers sideslap</b>
What race does the driver consider themselves?	<input checked="" type="checkbox"/> White <input type="checkbox"/> American Indian, Eskimo or Alut, Asian or Pacific Islander <input type="checkbox"/> Black <input type="checkbox"/> Other (specify): _____ <input type="checkbox"/> Unknown
Is the driver of Hispanic origin?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unknown

## VEHICLE INFORMATION

## ROLLOVER DATA

## DID THIS VEHICLE ROLL OVER DURING THE CRASH?

- ☐ YES -- ASK THE FOLLOWING QUESTIONS  
☒ NO -- SKIP TO "FIRE DATA" BELOW  
☐ UNKNOWN -- SKIP TO "FIRE DATA" BELOW

Describe where the rollover began	<input type="checkbox"/> On roadway <input type="checkbox"/> On shoulder <input type="checkbox"/> On roadside or median <input type="checkbox"/> Unknown
What caused the vehicle to roll over?	<input type="checkbox"/> Other vehicle (specify vehicle number) _____ <input type="checkbox"/> Contact to object (specify): _____ <input type="checkbox"/> Other cause (specify): _____ <input type="checkbox"/> Unknown
Which direction did the vehicle roll?	<input type="checkbox"/> Toward the right (passenger side) <input type="checkbox"/> Toward the left (driver side) <input type="checkbox"/> End-over-end <input type="checkbox"/> Unknown
Estimate the number of quarter turns (each side) or complete turns (4 quarter turns) the vehicle did	_____ Number of quarter turns <input type="checkbox"/> Unknown _____ Number of complete turns
When the vehicle stopped rolling over, which side was in contact with the ground?	<input type="checkbox"/> Left side <input type="checkbox"/> Top <input type="checkbox"/> Right side <input type="checkbox"/> Wheels <input type="checkbox"/> Unknown

## FIRE DATA

## DID THIS VEHICLE EXPERIENCE A FIRE?

- ☐ YES -- ASK THE FOLLOWING QUESTIONS  
☒ NO -- SKIP THIS SECTION  
☐ UNKNOWN -- SKIP THIS SECTION

Describe where the fire started, or where the smoke was first seen	<input type="checkbox"/> Under the hood <input type="checkbox"/> In the trunk/cargo area <input type="checkbox"/> Behind the instrument panel <input type="checkbox"/> Under the vehicle <input type="checkbox"/> In the passenger compartment <input type="checkbox"/> From other involved vehicle <input type="checkbox"/> Unknown
Did the fire start with the electrical system?	<input type="checkbox"/> No <input type="checkbox"/> Yes (specify): _____ <input type="checkbox"/> Unknown
Did the fire start with the fuel system?	<input type="checkbox"/> No <input type="checkbox"/> Yes (specify): _____ <input type="checkbox"/> Unknown
<b>ASK IF THE FIRE INVOLVED THE FUEL SYSTEM</b> Which part of the fuel system may have been involved?	<input type="checkbox"/> Fuel tank <input type="checkbox"/> Fuel lines <input type="checkbox"/> Engine compartment (specify component if known) <input type="checkbox"/> Unknown

Describe any additional rollover or fire information here:



## ADDITIONAL VEHICLE INFORMATION

<p>IF THIS VEHICLE HAS NOT BEEN INSPECTED ASK THIS QUESTION:</p> <p>What is the year, make and model of your vehicle?</p>	<p>Year: 19 <u>94</u></p> <p>Make: <u>Pontiac</u></p> <p>Model: <u>Grand Prix</u></p>
<p>Was there any damage to the vehicle that is not related to this crash?</p>	<p><input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/> Yes - describe:</p> <p><input type="checkbox"/> Unknown</p>
<p>Did any of the doors or hatch come open during the crash?</p>	<p><input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/> Yes - describe:</p> <p><input type="checkbox"/> Unknown</p>
<p>Did any of the windows break during the crash?</p>	<p><input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes - describe: <u>windshield, her window broke out during extraction</u></p> <p><input type="checkbox"/> Unknown</p>
<p>Were any windows open (O) or partially open (P) prior to the crash?</p>	<p><input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/> Yes* * "O" = open "P" = partially open</p> <p><input type="checkbox"/> WS <input type="checkbox"/> LF <input type="checkbox"/> RF <input type="checkbox"/> LR <input type="checkbox"/> RR</p> <p><input type="checkbox"/> BL <input type="checkbox"/> Roof <input type="checkbox"/> Other</p> <p><input type="checkbox"/> Unknown</p>
<p>Did the glove compartment door come open during the crash?</p>	<p><input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/> Yes - describe:</p> <p><input type="checkbox"/> Unknown</p>
<p>Was there any cargo in the vehicle at the time of the crash?</p>	<p><input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Yes - describe: <u>GROCERIES</u></p> <p>Approximate weight - <u>75</u> pounds</p> <p><input type="checkbox"/> Unknown</p>
<p>Approximate mileage on the vehicle?</p>	<p><u>25000</u> miles</p> <p><input type="checkbox"/> Unknown</p>
<p>If you have not inspected the vehicle, or permission is needed ask if you may look at their vehicle to assess the damage and ascertain the following:</p>	<p>Current location of the vehicle:</p> <p>Contact person:</p>
<p>Detail any notes, questions to ask interviewee (i.e., rescue personnel damage to vehicle) or directions to vehicle location here:</p>	

SPECIAL CRASH INVESTIGATION ADDENDUM: DRIVER INFORMATION	
Do you recall the type of development in the area of the crash?	<input type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Undeveloped <input type="checkbox"/> School <input type="checkbox"/> Other: _____
What were the weather conditions at the time of the crash?	<input checked="" type="checkbox"/> Clear (no clouds, no precipitation) <input type="checkbox"/> Cloudy (partially cloudy, no precipitation) <input type="checkbox"/> Overcast (full cloud cover, no precipitation) <input type="checkbox"/> Precipitating <input type="checkbox"/> Unknown
What was the type of precipitation?	<input checked="" type="checkbox"/> No precipitation <input type="checkbox"/> Unknown <input type="checkbox"/> Raining <input type="checkbox"/> Freezing rain <input type="checkbox"/> Sleet <input type="checkbox"/> Snowing <input type="checkbox"/> Hailing
What was the condition of the road surface?	<input type="checkbox"/> Dry <input checked="" type="checkbox"/> Wet/Damp <input type="checkbox"/> Snowy, slushy <input type="checkbox"/> Icy <input type="checkbox"/> Other (e.g., sand, dirt, oil on surface, etc.) <input type="checkbox"/> Unknown      Thunderstorms earlier
How would you describe the amount of traffic at the time of the crash?	<input type="checkbox"/> Heavy <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Light <input type="checkbox"/> No other traffic present
What is your occupation?	<input type="checkbox"/> Professional <input type="checkbox"/> Technical <input type="checkbox"/> Government official <input type="checkbox"/> Management <input type="checkbox"/> Proprietors <input type="checkbox"/> Sales <input type="checkbox"/> Clerical <input type="checkbox"/> Craftsman and foreman <input type="checkbox"/> Service worker <input type="checkbox"/> Student <input type="checkbox"/> Farmers and farm-managers <input type="checkbox"/> Farm labors and foreman <input type="checkbox"/> Private household worker <input type="checkbox"/> Housewife <input type="checkbox"/> Other: <u>teacher</u>
How long have you driven this vehicle?	Years: <u>1</u> Months: <u>5</u>
How many miles do you think that you have driven it in the last 12-month period?	Miles: <u>10000 that car</u> <u>3000 other veh.</u>
How often do you drive this particular roadway?	<input type="checkbox"/> Daily <input type="checkbox"/> Twice weekly <input checked="" type="checkbox"/> Once weekly <input type="checkbox"/> Twice monthly <input type="checkbox"/> Once monthly <input type="checkbox"/> Very infrequently <input type="checkbox"/> First time on road
Where were you coming from just prior to the crash?	<input type="checkbox"/> Home <input type="checkbox"/> Work <input type="checkbox"/> School <input checked="" type="checkbox"/> Shopping <input type="checkbox"/> Social/recreational <input type="checkbox"/> Restaurant <input type="checkbox"/> Personal business <input type="checkbox"/> Other: _____
Where were you intending to go when the crash occurred?	<input checked="" type="checkbox"/> Home <input type="checkbox"/> Work <input type="checkbox"/> School <input type="checkbox"/> Shopping <input type="checkbox"/> Social/recreational <input type="checkbox"/> Restaurant <input type="checkbox"/> Personal business <input type="checkbox"/> Other: _____

## OCCUPANT DATA QUESTIONS

How many people were in your vehicle at the time of the crash?

	DRIVER	OCCUPANT # <u>2</u>	OCCUPANT # <u>   </u>
<b>Where was this person sitting in the vehicle?</b>  Front Left (FL)      Second Left (2L) Front Middle (FM)    Second Middle (2M) Front Right (FR)      Second Right (2R)  Third Left (3L)      Other (SPECIFY in block) Third Middle (3M) Third Right (3R)	FRONT LEFT	FR	
<b>What is the Sex, Height, Weight, and Age of each occupant?</b>	<input checked="" type="checkbox"/> M <input type="checkbox"/> F - Not pregnant <input type="checkbox"/> F - Pregnant - # of months <u>   </u> <input type="checkbox"/> F - Unk. if pregnant  HEIGHT: <u>5'7</u> WEIGHT: <u>205</u> AGE: <u>43</u>	<input type="checkbox"/> M <input checked="" type="checkbox"/> F - Not pregnant <input type="checkbox"/> F - Pregnant - # of months <u>   </u> <input type="checkbox"/> F - Unk. if pregnant  HEIGHT: <u>5'4</u> WEIGHT: <u>180</u> AGE: <u>34</u>	<input type="checkbox"/> M <input type="checkbox"/> F - Not pregnant <input type="checkbox"/> F - Pregnant - # of months <u>   </u> <input type="checkbox"/> F - Unk. if pregnant  HEIGHT: <u>   </u> WEIGHT: <u>   </u> AGE: <u>   </u>
<b>Describe how occupant was seated</b>  A) Kneeling or standing on seat B) Lying on or across seat C) Kneeling, standing or sitting in front of seat D) Sitting sideways, turned to side or back E) Sitting on console F) Lying back in reclined position G) Other (specify) H) Unknown	<input type="checkbox"/> Leaning to left <input type="checkbox"/> Leaning to right <input checked="" type="checkbox"/> Sitting upright <input type="checkbox"/> Unknown  Indicate all letters that apply and describe if other than above	<input type="checkbox"/> Leaning to left <input type="checkbox"/> Leaning to right <input checked="" type="checkbox"/> Sitting upright <input type="checkbox"/> Unknown  Indicate all letters that apply and describe if other than above	<input type="checkbox"/> Leaning to left <input type="checkbox"/> Leaning to right <input type="checkbox"/> Sitting upright <input type="checkbox"/> Unknown  Indicate all letters that apply and describe if other than above
<b>Describe feet and hands/arms location just prior to impact (indicate all that apply)</b>  <u>FEET</u> A) On floor or foot controls B) One or both on dash C) One or both on seat D) Other (specify) E) Unknown  <u>HANDS / ARMS</u> F) Both hands on steering wheel G) One on wheel, other hand resting or adjusting a control (specify hand on wheel and control involved) H) Dialing a cellular phone (specify location and type of phone) I) Holding a cellular phone (specify location and type of phone) J) Bracing with one or both hands K) On lap L) One or both out of window (specify) M) Other (specify) N) Unknown	Indicate all letters that apply and further describe as needed  (R) on Accell (L) on F  G	Indicate all letters that apply and further describe as needed  Both feet on floor  (L) Hand unk (R) Hand straight out in front prior to impact	Indicate all letters that apply and further describe as needed

Describe any additional information here:

OCCUPANT DATA CONTINUED ON NEXT PAGE

## OCCUPANT DATA QUESTIONS (continued)

	DRIVER	OCCUPANT # <u>2</u>	OCCUPANT # <u>   </u>
Was your / their back up against the seat back?	<input type="checkbox"/> No (describe) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Unknown	<input type="checkbox"/> No (describe) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Unknown	<input type="checkbox"/> No (describe) <input type="checkbox"/> Yes <input type="checkbox"/> Unknown
Does this seat position have an adjustable seat track, if so where was the seat located prior to impact?	<input type="checkbox"/> Not adjustable <input type="checkbox"/> Seat all the way forward <input type="checkbox"/> Between forward and middle <input checked="" type="checkbox"/> At middle position <input type="checkbox"/> Between middle and rear position <input type="checkbox"/> Seat all the way rearward <input type="checkbox"/> Unknown	<input type="checkbox"/> Not adjustable <input type="checkbox"/> Seat all the way forward <input checked="" type="checkbox"/> Between forward and middle <input type="checkbox"/> At middle position <input type="checkbox"/> Between middle and rear position <input type="checkbox"/> Seat all the way rearward <input type="checkbox"/> Unknown	<input type="checkbox"/> Not adjustable <input type="checkbox"/> Seat all the way forward <input type="checkbox"/> Between forward and middle <input type="checkbox"/> At middle position <input type="checkbox"/> Between middle and rear position <input type="checkbox"/> Seat all the way rearward <input type="checkbox"/> Unknown
Does this seat position have an adjustable seat back, if so where was the seat back located prior to impact?	<input type="checkbox"/> Not adjustable <input checked="" type="checkbox"/> Completely upright <input type="checkbox"/> Slightly reclined <input type="checkbox"/> Completely reclined	<input type="checkbox"/> Not adjustable <input checked="" type="checkbox"/> Completely upright <input type="checkbox"/> Slightly reclined <input type="checkbox"/> Completely reclined	<input type="checkbox"/> Not adjustable <input type="checkbox"/> Completely upright <input type="checkbox"/> Slightly reclined <input type="checkbox"/> Completely reclined
If this seat position has an adjustable seat back, where was the seat back located after impact?	<input type="checkbox"/> Not adjustable <input checked="" type="checkbox"/> Did not move (retained original position) <input type="checkbox"/> Completely reclined <input type="checkbox"/> Slightly reclined <input type="checkbox"/> Completely upright <input type="checkbox"/> Slightly forward of upright <input type="checkbox"/> Completely forward <input type="checkbox"/> Unknown	<input type="checkbox"/> Not adjustable <input checked="" type="checkbox"/> Did not move (retained original position) <input type="checkbox"/> Completely reclined <input type="checkbox"/> Slightly reclined <input type="checkbox"/> Completely upright <input type="checkbox"/> Slightly forward of upright <input type="checkbox"/> Completely forward <input type="checkbox"/> Unknown	<input type="checkbox"/> Not adjustable <input type="checkbox"/> Did not move (retained original position) <input type="checkbox"/> Completely reclined <input type="checkbox"/> Slightly reclined <input type="checkbox"/> Completely upright <input type="checkbox"/> Slightly forward of upright <input type="checkbox"/> Completely forward <input type="checkbox"/> Unknown

Did this vehicle have a cellular phone in it during the crash?

☒ No☐ Yes - describe type: \_\_\_\_\_  
(e.g., portable, mounted in vehicle, flip phone, etc.)☐ Unknown*(Note to researcher: try to determine any driver distractions without implying fault)*

Was the driver doing any of the following? (check all that apply - and specify)

- ☒ Talking to or listening to another occupant (specify):  
☐ Was there a moving object in vehicle (specify):  
☐ Talking or listening on a cellular phone (specify):  
☐ Dialing a cellular phone (specify):  
☐ Adjusting climate control (specify):  
☐ Adjusting radio, CD or cassette player (specify):  
☐ Using other device or object in vehicle (specify):  
☐ Sleeping / asleep (specify):  
☐ Distracted by outside person, object, or event (specify):  
☐ Eating or drinking (specify):  
☐ Smoking related (specify):  
☐ Other (specify):  
☐ Unknown

Describe any additional information here:

## RESTRAINT INFORMATION

	DRIVER	OCCUPANT # <u>2</u>	OCCUPANT # <u>   </u>
Describe the seat belt available for the seat position  NOTE: If a belt is not available for a seat position – describe if removed or not functional.	<input type="checkbox"/> Unknown <input type="checkbox"/> Lap belt <input type="checkbox"/> Shoulder belt <input checked="" type="checkbox"/> Lap & Shoulder <input type="checkbox"/> Not available * * Describe:	<input type="checkbox"/> Unknown <input type="checkbox"/> Lap belt <input type="checkbox"/> Shoulder belt <input checked="" type="checkbox"/> Lap & Shoulder <input type="checkbox"/> Not available * * Describe:	<input type="checkbox"/> Unknown <input type="checkbox"/> Lap belt <input type="checkbox"/> Shoulder belt <input type="checkbox"/> Lap & Shoulder <input type="checkbox"/> Not available * * Describe:
Do any of the belts attach to the motorized track on the seat?	<input type="checkbox"/> Unknown <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes *  * If "Yes", were they working properly?  <input type="checkbox"/> Yes <input type="checkbox"/> No (describe):	<input type="checkbox"/> Unknown <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes *  * If "Yes", were they working properly?  <input type="checkbox"/> Yes <input type="checkbox"/> No (describe):	<input type="checkbox"/> Unknown <input type="checkbox"/> No <input type="checkbox"/> Yes *  * If "Yes", were they working properly?  <input type="checkbox"/> Yes <input type="checkbox"/> No (describe):
Do any of the belts attach to the door such that when the door is opened the belt travels with the door?	<input type="checkbox"/> Unknown <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes *  * If "Yes", does it cross: <input type="checkbox"/> Chest <input type="checkbox"/> Lap <input type="checkbox"/> Both	<input type="checkbox"/> Unknown <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes *  * If "Yes", does it cross: <input type="checkbox"/> Chest <input type="checkbox"/> Lap <input type="checkbox"/> Both	<input type="checkbox"/> Unknown <input type="checkbox"/> No <input type="checkbox"/> Yes *  * If "Yes", does it cross: <input type="checkbox"/> Chest <input type="checkbox"/> Lap <input type="checkbox"/> Both
Were you [and other occupant(s)] wearing a seat belt during the accident?	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Unknown	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Unknown	<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unknown

## SKIP THE FOLLOWING IF NO SEAT BELT WAS WORN

What type of belt were you [and other occupant(s)] wearing?	<input type="checkbox"/> Lap belt <input type="checkbox"/> Shoulder belt <input type="checkbox"/> Lap & Shoulder <input type="checkbox"/> Unknown	<input type="checkbox"/> Lap belt <input type="checkbox"/> Shoulder belt <input type="checkbox"/> Lap & Shoulder <input type="checkbox"/> Unknown	<input type="checkbox"/> Lap belt <input type="checkbox"/> Shoulder belt <input type="checkbox"/> Lap & Shoulder <input type="checkbox"/> Unknown
How was the lap belt situated?	<input type="checkbox"/> Over the lap <input type="checkbox"/> Across the chest <input type="checkbox"/> Other (specify): <input type="checkbox"/> Unknown	<input type="checkbox"/> Over the lap <input type="checkbox"/> Across the chest <input type="checkbox"/> Other (specify): <input type="checkbox"/> Unknown	<input type="checkbox"/> Over the lap <input type="checkbox"/> Across the chest <input type="checkbox"/> Other (specify): <input type="checkbox"/> Unknown
How was the shoulder belt situated?	<input type="checkbox"/> Over the shoulder <input type="checkbox"/> Under the arm <input type="checkbox"/> Behind back <input type="checkbox"/> Behind seat <input type="checkbox"/> Other (specify):	<input type="checkbox"/> Over the shoulder <input type="checkbox"/> Under the arm <input type="checkbox"/> Behind back <input type="checkbox"/> Behind seat <input type="checkbox"/> Other (specify):	<input type="checkbox"/> Over the shoulder <input type="checkbox"/> Under the arm <input type="checkbox"/> Behind back <input type="checkbox"/> Behind seat <input type="checkbox"/> Other (specify):

Describe any breaks, tears, or failures to any of the seat belts:

## EJECTION, ENTRAPMENT, MOBILITY INFORMATION

	DRIVER	OCCUPANT # <u>2</u>	OCCUPANT # <u>   </u>
Was any part of your body thrown outside the vehicle during the crash?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes * <input type="checkbox"/> Unknown  * If "Yes" - what part(s) were ejected, and what area of the vehicle was involved.	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes * <input type="checkbox"/> Unknown  * If "Yes" - what part(s) were ejected, and what area of the vehicle was involved.	<input type="checkbox"/> No <input type="checkbox"/> Yes * <input type="checkbox"/> Unknown  * If "Yes" - what part(s) were ejected, and what area of the vehicle was involved.
Was anyone pinned in the vehicle?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes — physically pinned — jammed doors — fire, etc.  <input type="checkbox"/> Unknown  Detail any entrapment	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes — physically pinned <input checked="" type="checkbox"/> jammed doors — fire, etc.  <input type="checkbox"/> Unknown  Detail any entrapment	<input type="checkbox"/> No <input type="checkbox"/> Yes — physically pinned — jammed doors — fire, etc.  <input type="checkbox"/> Unknown  Detail any entrapment
How did you [and other occupant(s)] exit the vehicle?	<input type="checkbox"/> Fatal before removed <input type="checkbox"/> Removed while unconscious or disoriented <input type="checkbox"/> Removed due to injuries <input type="checkbox"/> Exited with some assistance <input checked="" type="checkbox"/> Exited under own power <input type="checkbox"/> Fully ejected <input type="checkbox"/> Unknown	<input type="checkbox"/> Fatal before removed <input type="checkbox"/> Removed while unconscious or disoriented <input checked="" type="checkbox"/> Removed due to injuries <input type="checkbox"/> Exited with some assistance <input type="checkbox"/> Exited under own power <input type="checkbox"/> Fully ejected <input type="checkbox"/> Unknown	<input type="checkbox"/> Fatal before removed <input type="checkbox"/> Removed while unconscious or disoriented <input type="checkbox"/> Removed due to injuries <input type="checkbox"/> Exited with some assistance <input type="checkbox"/> Exited under own power <input type="checkbox"/> Fully ejected <input type="checkbox"/> Unknown

Further describe any ejection, entrapment, or mobility information here:

## AIR BAG INFORMATION

WAS THIS VEHICLE EVER EQUIPPED WITH AN AIR BAG?

☒ YES (IF "YES" COMPLETE THIS SECTION)☐ NO ☐ UNKNOWN (IF "NO" OR "UNKNOWN" SKIP THIS SECTION)

	"OTHER" AIR BAG SPECIFY: _____ OCCUPANT # <u>1</u>	"OTHER" AIR BAG SPECIFY: _____ OCCUPANT # <u>2</u>	"OTHER" AIR BAG SPECIFY: _____ OCCUPANT # _____
Had this vehicle been in any previous crashes? <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES - continue to right <input type="checkbox"/> UNKNOWN - go to box below	<input type="checkbox"/> Prior crash <u>without</u> deployment <input type="checkbox"/> One prior crash <u>with</u> deployment <input type="checkbox"/> > 1, with at least one deployment <input type="checkbox"/> Previous accident(s) unknown if deployed  IF PRIOR DEPLOYMENT <input type="checkbox"/> CHECK IF NOT REINSTALLED	<input type="checkbox"/> Prior crash <u>without</u> deployment <input type="checkbox"/> One prior crash <u>with</u> deployment <input type="checkbox"/> > 1, with at least one deployment <input type="checkbox"/> Previous accident(s) unknown if deployed  IF PRIOR DEPLOYMENT <input type="checkbox"/> CHECK IF NOT REINSTALLED	<input type="checkbox"/> Prior crash <u>without</u> deployment <input type="checkbox"/> One prior crash <u>with</u> deployment <input type="checkbox"/> > 1, with at least one deployment <input type="checkbox"/> Previous accident(s) unknown if deployed  IF PRIOR DEPLOYMENT <input type="checkbox"/> CHECK IF NOT REINSTALLED
Type of air bag?	<input checked="" type="checkbox"/> Original equipment <input type="checkbox"/> Retrofitted <input type="checkbox"/> Replacement <input type="checkbox"/> Unknown	<input checked="" type="checkbox"/> Original equipment <input type="checkbox"/> Retrofitted <input type="checkbox"/> Replacement <input type="checkbox"/> Unknown	<input type="checkbox"/> Original equipment <input type="checkbox"/> Retrofitted <input type="checkbox"/> Replacement <input type="checkbox"/> Unknown
Had any prior maintenance / service been performed on the air bag system?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes - Specify:	<input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes - Specify:	<input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes - Specify:
Did the air bag inflate during this crash?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Unknown <input type="checkbox"/> No  If "NO" was the wiring disconnected prior to the crash? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> Unknown <input type="checkbox"/> No  If "NO" was the wiring disconnected prior to the crash? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk	<input type="checkbox"/> Yes <input type="checkbox"/> Unknown <input type="checkbox"/> No  If "NO" was the wiring disconnected prior to the crash? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk
Was the person in this position wearing any type of eye-wear? (Eyeglasses, sunglasses, contact lenses)	<input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes - Specify:	<input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes - Specify:	<input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes - Specify:
Was the air bag in this position contacted by another occupant?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes - Specify:	<input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes - Specify:	<input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes - Specify:

Describe any additional information here:

## CHILD SAFETY SEAT INFORMATION

WAS THERE A PERSON IN A CHILD SAFETY SEAT IN THIS VEHICLE?

☐ YES (IF "YES" COMPLETE THIS SECTION)☒ NO ☐ UNKNOWN (IF "NO" OR "UNKNOWN" SKIP THIS SECTION)

	DRIVER	OCCUPANT # ____	OCCUPANT # ____
Manufacturer and model of the safety seat?			
Type of safety seat?		<input type="checkbox"/> Infant <input type="checkbox"/> Toddler <input type="checkbox"/> Convertible <input type="checkbox"/> Booster <input type="checkbox"/> Integral <input type="checkbox"/> Other Specify: _____ <input type="checkbox"/> Unknown	<input type="checkbox"/> Infant <input type="checkbox"/> Toddler <input type="checkbox"/> Convertible <input type="checkbox"/> Booster <input type="checkbox"/> Integral <input type="checkbox"/> Other Specify: _____ <input type="checkbox"/> Unknown
What direction was it facing prior to the crash?		<input type="checkbox"/> Front <input type="checkbox"/> Rearward <input type="checkbox"/> Unknown	<input type="checkbox"/> Front <input type="checkbox"/> Rearward <input type="checkbox"/> Unknown
Was a seat belt used to hold the seat in place?		<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unknown	<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unknown
How was the seat belt secured to the child seat?		<input type="checkbox"/> Looped through designated rear framing studs <input type="checkbox"/> Looped through arm rest slots <input type="checkbox"/> Belt across safety shield <input type="checkbox"/> Looped through rear frame outside the designated framing struts <input type="checkbox"/> Other (specify): _____ <input type="checkbox"/> Unknown	<input type="checkbox"/> Looped through designated rear framing studs <input type="checkbox"/> Looped through arm rest slots <input type="checkbox"/> Belt across safety shield <input type="checkbox"/> Looped through rear frame outside the designated framing struts <input type="checkbox"/> Other (specify): _____ <input type="checkbox"/> Unknown
What was the safety seat equipped with at time of purchase?		<input type="checkbox"/> Harness <input type="checkbox"/> Shield <input type="checkbox"/> Tether <input type="checkbox"/> Unknown	<input type="checkbox"/> Harness <input type="checkbox"/> Shield <input type="checkbox"/> Tether <input type="checkbox"/> Unknown
Were any of these added after they owned the safety seat?		<input type="checkbox"/> Harness <input type="checkbox"/> Shield <input type="checkbox"/> Tether <input type="checkbox"/> None <input type="checkbox"/> Unknown	<input type="checkbox"/> Harness <input type="checkbox"/> Shield <input type="checkbox"/> Tether <input type="checkbox"/> None <input type="checkbox"/> Unknown

Describe any additional information here:



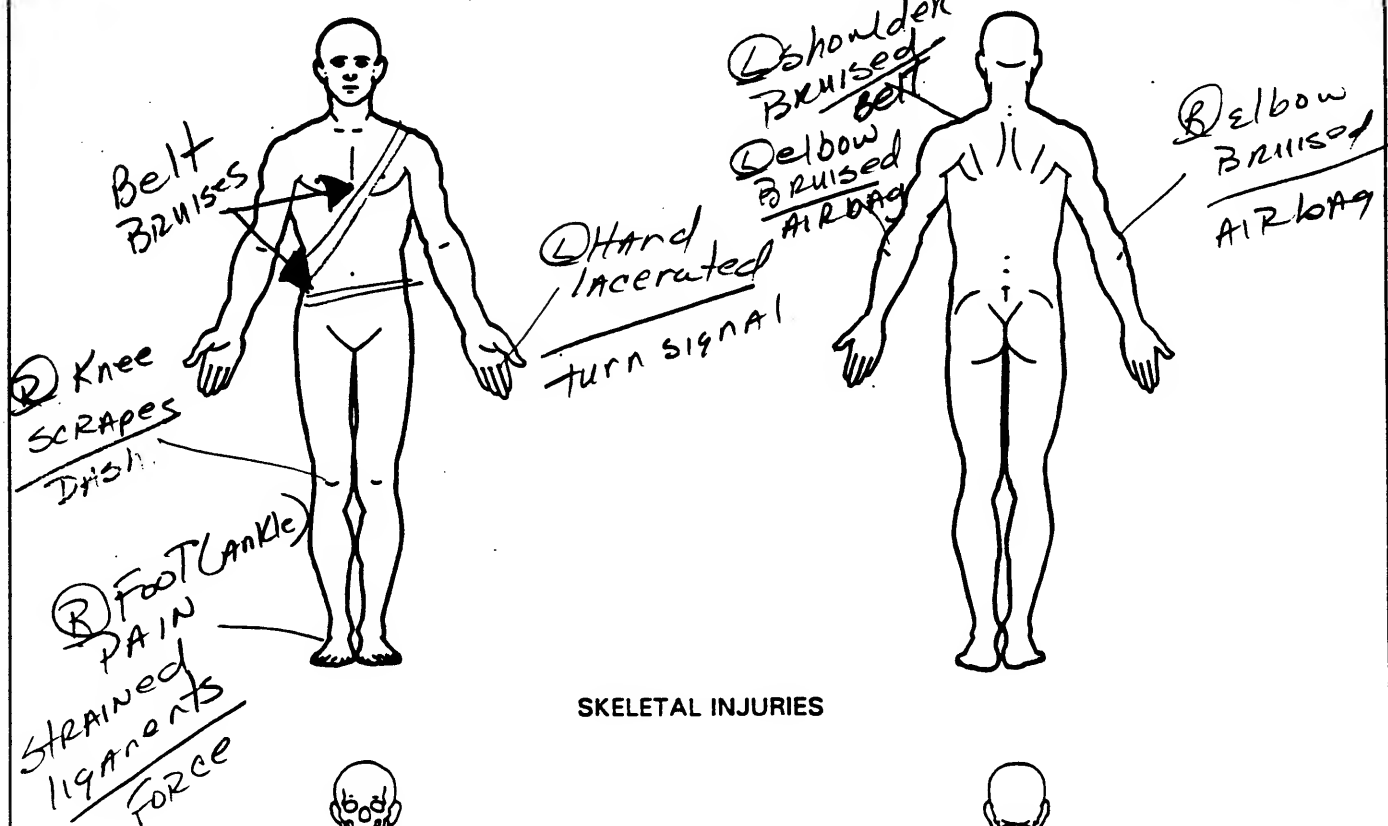
INJURY INFORMATION			
	DRIVER	OCCUPANT # <u>2</u>	OCCUPANT # <u>    </u>
Were you (or any other occupants) injured? • If "YES" go to manikin page and record injuries in detail • If "NO" ask next questions	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Unknown	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Unknown	<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unknown
Did you (or any other occupants) receive any of the following: (If any injuries are checked, go to the manikin page and record location, lesion, and source)	<input checked="" type="checkbox"/> Cuts <input checked="" type="checkbox"/> Abrasions <input checked="" type="checkbox"/> Bruises <input checked="" type="checkbox"/> Broken bones <input type="checkbox"/> Head, skull, brain <input type="checkbox"/> Internal injury <input checked="" type="checkbox"/> Sprains, strains <input type="checkbox"/> Other (specify):	<input checked="" type="checkbox"/> Cuts <input checked="" type="checkbox"/> Abrasions <input checked="" type="checkbox"/> Bruises <input checked="" type="checkbox"/> Broken bones <input type="checkbox"/> Head, skull, brain <input type="checkbox"/> Internal injury <input type="checkbox"/> Sprains, strains <input type="checkbox"/> Other (specify):	<input type="checkbox"/> Cuts <input type="checkbox"/> Abrasions <input type="checkbox"/> Bruises <input type="checkbox"/> Broken bones <input type="checkbox"/> Head, skull, brain <input type="checkbox"/> Internal injury <input type="checkbox"/> Sprains, strains <input type="checkbox"/> Other (specify):
<b>YES CHECKED IN THE MANIKIN PAGE(S)</b>			
Did you (or any other occupants) receive any medical treatment? (check all that apply)	<input checked="" type="checkbox"/> Hospital <input type="checkbox"/> Medical clinic <input type="checkbox"/> Paramedics at scene <input type="checkbox"/> Doctor's office <input type="checkbox"/> Treated by self <input type="checkbox"/> Unknown	<input checked="" type="checkbox"/> Hospital <input checked="" type="checkbox"/> Medical clinic <input type="checkbox"/> Paramedics at scene <input type="checkbox"/> Doctor's office <input type="checkbox"/> Treated by self <input type="checkbox"/> Unknown	<input type="checkbox"/> Hospital <input type="checkbox"/> Medical clinic <input type="checkbox"/> Paramedics at scene <input type="checkbox"/> Doctor's office <input type="checkbox"/> Treated by self <input type="checkbox"/> Unknown
Were you (or any other occupants) hospitalized?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes - number of days <input type="checkbox"/> Unknown	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes - number of days <u>3</u> <input type="checkbox"/> Unknown	<input type="checkbox"/> No <input type="checkbox"/> Yes - number of days <input type="checkbox"/> Unknown
Were you (or any other occupants) treated and released from the emergency room?	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Unknown	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unknown	<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unknown
Name of medical treatment facility?	Hosp.	Hosp.	
Have you (or any other occupants) received any follow-up treatment?	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes - describe: <u>MED clinic</u> <input type="checkbox"/> Unknown	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes - describe: <u>DR</u> <input type="checkbox"/> Unknown	<input type="checkbox"/> No <input type="checkbox"/> Yes - describe: <input type="checkbox"/> Unknown
Have you (or any other occupants) lost any days from work or school (college) due to the crash?	<input type="checkbox"/> No <input type="checkbox"/> Not working prior to crash <input checked="" type="checkbox"/> Yes - number of days <u>20</u> <input type="checkbox"/> Unknown	<input checked="" type="checkbox"/> No <input type="checkbox"/> Not working prior to crash <input type="checkbox"/> Yes - number of days <input type="checkbox"/> Unknown	<input type="checkbox"/> No <input type="checkbox"/> Not working prior to crash <input type="checkbox"/> Yes - number of days <input type="checkbox"/> Unknown
IF REQUIRED: Will you sign a medical release? * If not an in-person interview, make appointment to have release signed	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes* <input type="checkbox"/> Unknown DATE: _____ TIME: _____ PLACE: _____	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes* <input type="checkbox"/> Unknown DATE: _____ TIME: _____ PLACE: _____	<input type="checkbox"/> No <input type="checkbox"/> Yes* <input type="checkbox"/> Unknown DATE: _____ TIME: _____ PLACE: _____

PSU Number 10 Case Number-Stratum 9510 Vehicle Number 01 Occupant Number 01

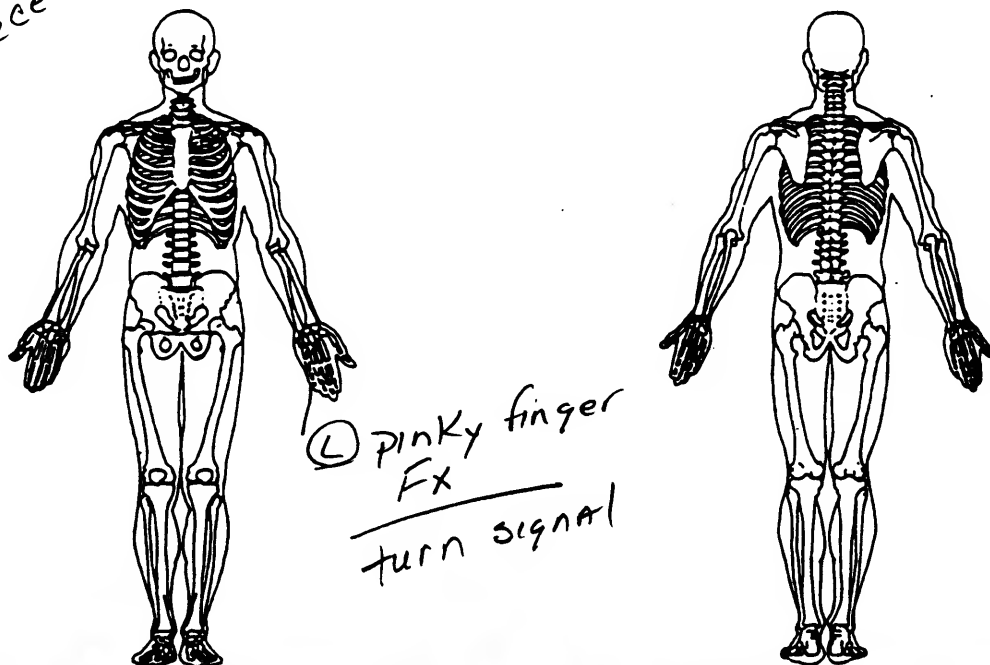
## INJURY DATA FROM INTERVIEWEE(S)

Indicate the Location, Lesion, Detail, and Source of all injuries. Specify interviewee(s): DRIVER this  
Occup.

## SOFT TISSUE/INTERNAL INJURIES



## SKELETAL INJURIES

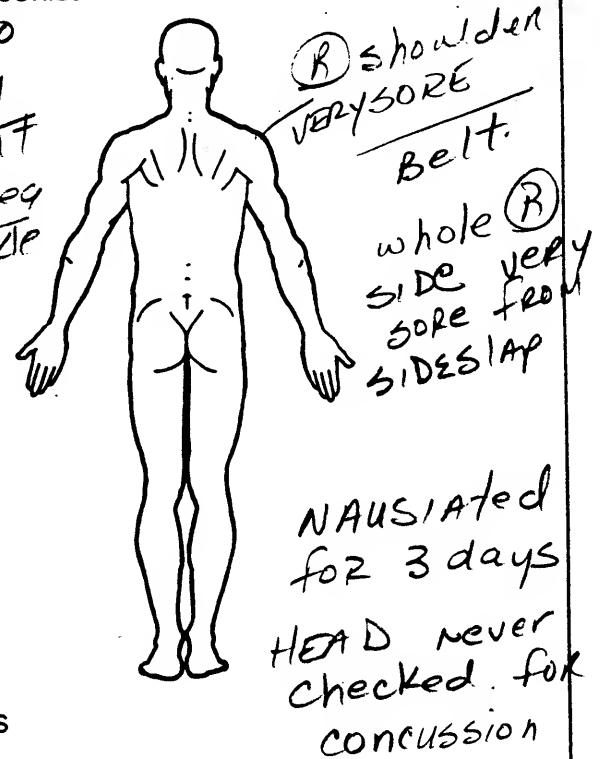
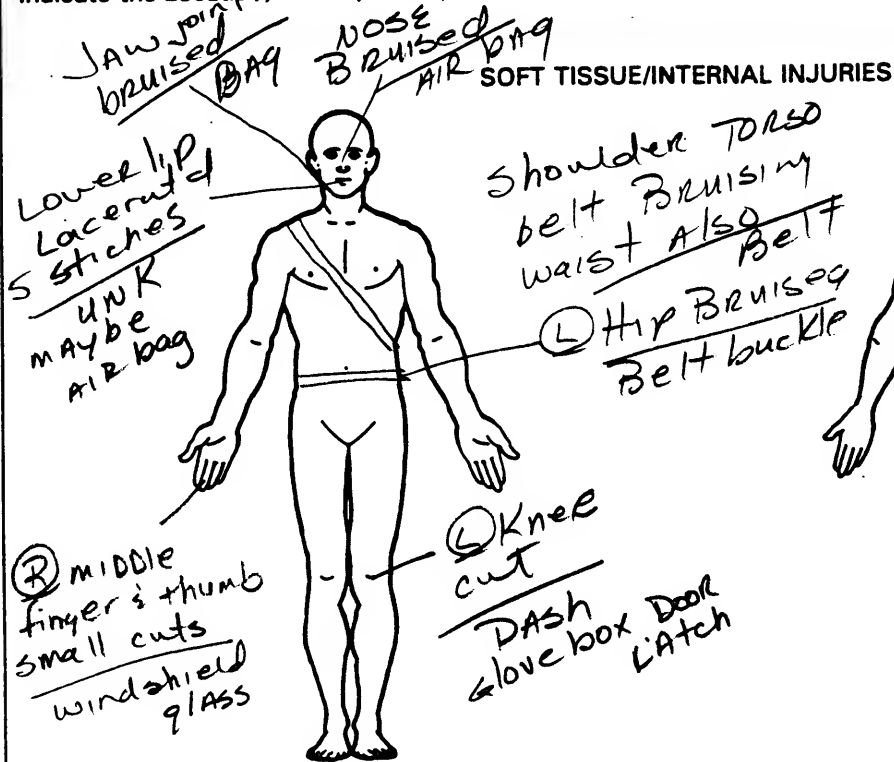


DOB

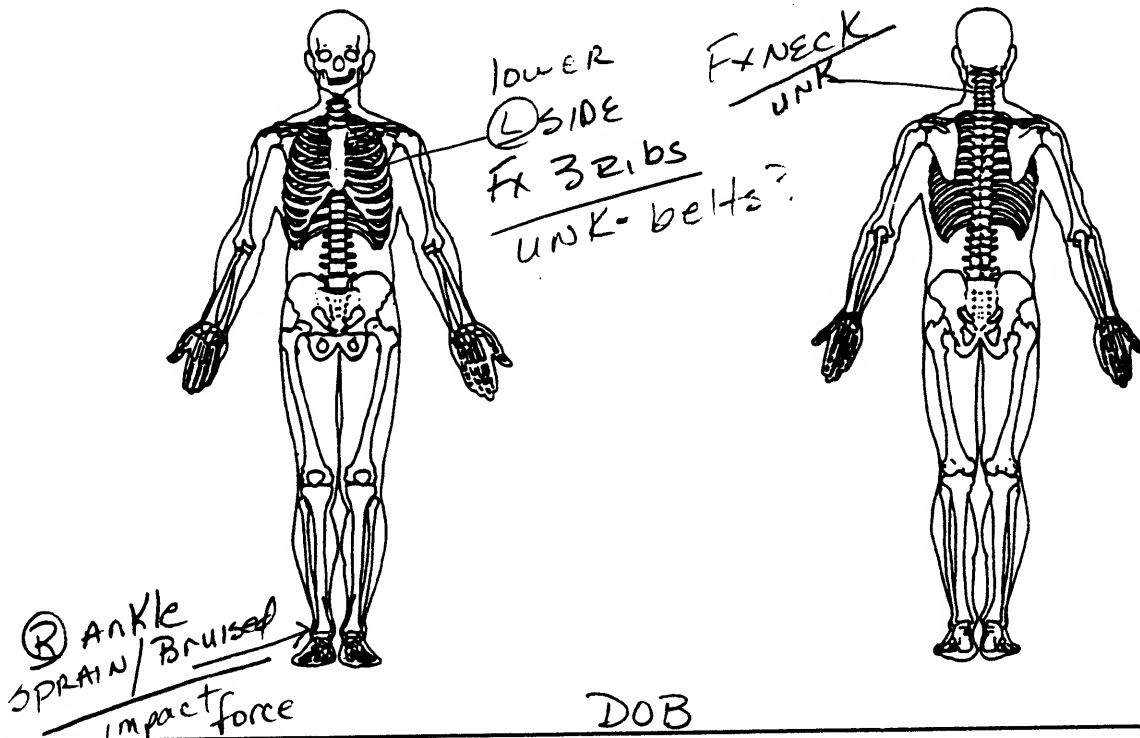
The space provided on the back of this page may be used to further detail injuries noted by the interviewee(s).

PSU Number 10Case Number-Stratum 9510Vehicle Number 01Occupant Number 02

## INJURY DATA FROM INTERVIEWEE(S)

Indicate the Location, Lesion, Detail, and Source of all injuries. Specify interviewee(s): DRIVER ANDthis occup

## SKELETAL INJURIES



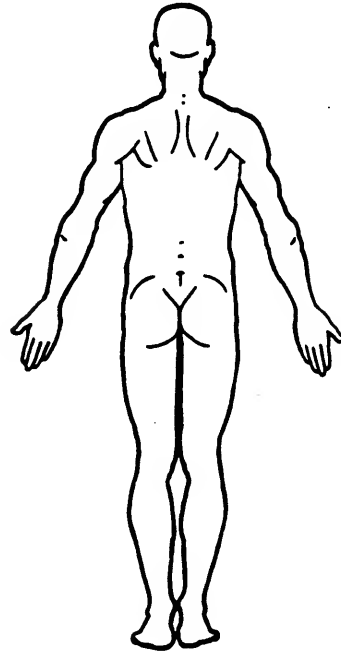
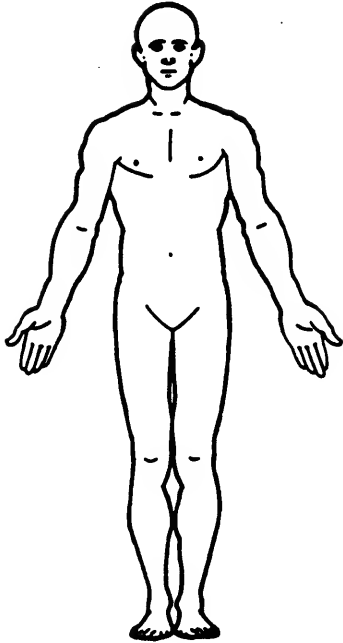
The space provided on the back of this page may be used to further detail injuries noted by the interviewee(s).

PSU Number 10 Case Number—Stratum \_\_\_\_\_ Vehicle Number \_\_\_\_\_ Occupant Number \_\_\_\_\_

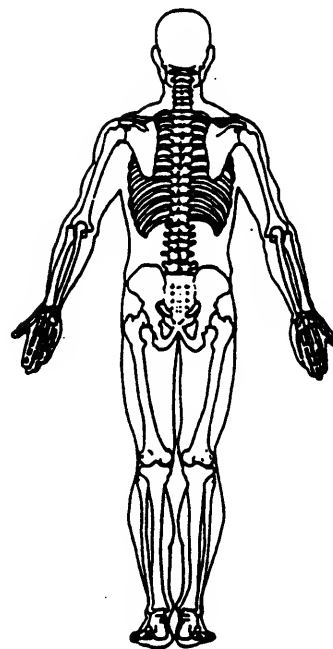
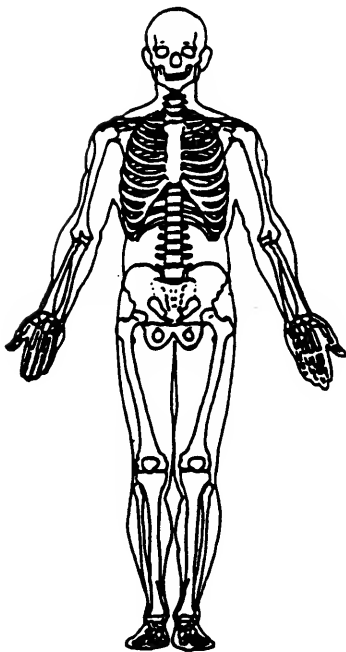
## INJURY DATA FROM INTERVIEWEE(S)

Indicate the *Location, Lesion, Detail, and Source* of all injuries. Specify interviewee(s): \_\_\_\_\_

## SOFT TISSUE/INTERNAL INJURIES



## SKELETAL INJURIES



The space provided on the back of this page may be used to further detail injuries noted by the interviewee(s).

**Appendix G:**

**NASS CDS INTERVIEW FORM:**

**VEHICLE #2 DRIVER AND PASSENGERS--RIGHT FRONT AND CENTER REAR**



## INTERVIEW FORM (A)

1. Primary Sampling Unit Number	<u>10</u>	Interviewee(s) Role or Name(s):	<u>DRIVER &amp;</u>
2. Case Number - Stratum	<u>9510</u>		<u>Both PASS were</u>
3. Vehicle Number	<u>02</u>		<u>interviewed.</u>

Review all available information and interview questions prior to conducting interview(s) to ensure the acquisition of all pertinent data.

If the driver was not the person interviewed, was an appointment made for a follow-up interview?

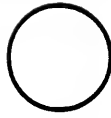
### DRIVER'S DESCRIPTION OF ACCIDENT EVENTS

We were pulling onto Hwy left towards  
[REDACTED] And we got hit. That's about it.

### OCCUPANT'S DESCRIPTION OF ACCIDENT EVENTS

### SPECIFIC QUESTIONS TO ASK INTERVIEWEE

## ACCIDENT DIAGRAM



NORTH

The use of this diagram is optional. It may serve to aid in relating interviewee accident trajectory data (i.e., pre-impact to FRP orientations) to identifiable objects in the environment.

## CRASH DATA INFORMATION

## IF POSSIBLE OBTAIN THIS INFORMATION FROM THE DRIVER:

SOURCE OF INFORMATION:	<input checked="" type="checkbox"/> Driver <input checked="" type="checkbox"/> Other occupant <input type="checkbox"/> Relative/friend
In which direction were you traveling?	<input type="checkbox"/> North <input type="checkbox"/> South <input type="checkbox"/> East <input type="checkbox"/> West <i>UNK</i> (Or where were they coming from or going to?)
What lane were you in?	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> Other <i>EXITING PRUT DRIVE</i> Note: lane 1 is the right curb lane
What was the condition of the roadway?	<input checked="" type="checkbox"/> Dry <input type="checkbox"/> Wet <input type="checkbox"/> Snow <input type="checkbox"/> Slush <input type="checkbox"/> Ice <input type="checkbox"/> Sand, dirt, oil <input type="checkbox"/> Other (specify)
What was the weather like? (Check all that apply)	<input type="checkbox"/> No adverse conditions <input checked="" type="checkbox"/> Rain <input type="checkbox"/> Fog <input type="checkbox"/> Sleet <input type="checkbox"/> Hail <input type="checkbox"/> Snow <input type="checkbox"/> Other (specify)
Was there any type of sign or signal present? (check all that apply)	<input type="checkbox"/> Traffic control signal (includes flashing beacons, lane control signals, and green / amber / red signal) <input type="checkbox"/> Stop sign <input type="checkbox"/> Yield sign <input type="checkbox"/> School zone sign <input type="checkbox"/> Other regulatory sign (No "U" turn, left turn only, wrong way, etc.) specify: <input type="checkbox"/> Warning sign (Winding road sign, stop ahead, intersection signs, etc.) specify: <input type="checkbox"/> Miscellaneous control (including railroad controls) specify: <input checked="" type="checkbox"/> None <input type="checkbox"/> Unknown
If a traffic control device was present, was it functioning properly at the time of the crash?	<input checked="" type="checkbox"/> No traffic control device present <input type="checkbox"/> Not functioning properly (includes defaced, badly worn, covered with snow, rotated etc.) specify: <input type="checkbox"/> Functioning properly <input type="checkbox"/> Unknown
Can you estimate your travel speed before the crash? (in mph)	<input type="checkbox"/> Stopped <input type="checkbox"/> 11-20 <input type="checkbox"/> 31-40 <input type="checkbox"/> 51-60 <input type="checkbox"/> 70+ <input type="checkbox"/> 1-10 <input type="checkbox"/> 21-30 <input type="checkbox"/> 41-50 <input type="checkbox"/> 61-70 <input checked="" type="checkbox"/> Unknown
Just before the crash, what were you doing or intending to do? (check all that apply)	<input type="checkbox"/> Going straight <input type="checkbox"/> Stopped <input checked="" type="checkbox"/> Turning left <input type="checkbox"/> Turning right <input type="checkbox"/> Slowing <input type="checkbox"/> Accelerating <input type="checkbox"/> Backing <input type="checkbox"/> Changing lanes to right <input type="checkbox"/> Other (specify): <input type="checkbox"/> Changing lanes to left
Did vehicle lose control due to weather or mechanical problems?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Yes (describe)
Did driver take avoidance actions? <input type="checkbox"/> Yes (Check all that apply) → <input type="checkbox"/> No <input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Braking with lock-up <input type="checkbox"/> Accelerating <input type="checkbox"/> Other (specify): <input type="checkbox"/> Braking without lock-up <input type="checkbox"/> Steering left <input type="checkbox"/> Releasing brakes <input type="checkbox"/> Steering right
Where was vehicle at time of collision?	<input type="checkbox"/> Original travel lane <input type="checkbox"/> Different travel lane <input type="checkbox"/> In intersection <input type="checkbox"/> Off roadway to right <input type="checkbox"/> Off roadway to left <input type="checkbox"/> Other (specify):
Can you estimate your travel speed at the time of collision? (in mph)	<input type="checkbox"/> Stopped <input type="checkbox"/> 11-20 <input type="checkbox"/> 31-40 <input type="checkbox"/> 51-60 <input type="checkbox"/> 70+ <input type="checkbox"/> 1-10 <input type="checkbox"/> 21-30 <input type="checkbox"/> 41-50 <input type="checkbox"/> 61-70 <input checked="" type="checkbox"/> Unknown
Describe all the impacts to the vehicle, including what the vehicle contacted and how this vehicle moved to its stopped position, after the collision?	<i>Don't Remember NO SIDESLAP</i>
What race does the driver consider themselves?	<input type="checkbox"/> White <input type="checkbox"/> American Indian, Eskimo or Aleut, Asian or Pacific Islander <input checked="" type="checkbox"/> Black <input type="checkbox"/> Other (specify): <input type="checkbox"/> Unknown
Is the driver of Hispanic origin?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unknown



## VEHICLE INFORMATION

## ROLLOVER DATA

## DID THIS VEHICLE ROLL OVER DURING THE CRASH?

- ☐ YES -- ASK THE FOLLOWING QUESTIONS  
☒ NO -- SKIP TO "FIRE DATA" BELOW  
☐ UNKNOWN -- SKIP TO "FIRE DATA" BELOW

Describe where the rollover began	<input type="checkbox"/> On roadway <input type="checkbox"/> On shoulder <input type="checkbox"/> On roadside or median <input type="checkbox"/> Unknown
What caused the vehicle to roll over?	<input type="checkbox"/> Other vehicle (specify vehicle number) _____ <input type="checkbox"/> Contact to object (specify): _____ <input type="checkbox"/> Other cause (specify): _____ <input type="checkbox"/> Unknown
Which direction did the vehicle roll?	<input type="checkbox"/> Toward the right (passenger side) <input type="checkbox"/> Toward the left (driver side) <input type="checkbox"/> End-over-end <input type="checkbox"/> Unknown
Estimate the number of quarter turns (each side) or complete turns (4 quarter turns) the vehicle did	_____ Number of quarter turns <input type="checkbox"/> Unknown _____ Number of complete turns
When the vehicle stopped rolling over, which side was in contact with the ground?	<input type="checkbox"/> Left side <input type="checkbox"/> Top <input type="checkbox"/> Right side <input type="checkbox"/> Wheels <input type="checkbox"/> Unknown

## FIRE DATA

## DID THIS VEHICLE EXPERIENCE A FIRE?

- ☐ YES -- ASK THE FOLLOWING QUESTIONS  
☒ NO -- SKIP THIS SECTION  
☐ UNKNOWN -- SKIP THIS SECTION

Describe where the fire started, or where the smoke was first seen	<input type="checkbox"/> Under the hood <input type="checkbox"/> In the trunk/cargo area <input type="checkbox"/> Behind the instrument panel <input type="checkbox"/> Under the vehicle <input type="checkbox"/> In the passenger compartment <input type="checkbox"/> From other involved vehicle <input type="checkbox"/> Unknown
Did the fire start with the electrical system?	<input type="checkbox"/> No <input type="checkbox"/> Yes (specify): _____ <input type="checkbox"/> Unknown
Did the fire start with the fuel system?	<input type="checkbox"/> No <input type="checkbox"/> Yes (specify): _____ <input type="checkbox"/> Unknown
<b>ASK IF THE FIRE INVOLVED THE FUEL SYSTEM</b> Which part of the fuel system may have been involved?	<input type="checkbox"/> Fuel tank <input type="checkbox"/> Fuel lines <input type="checkbox"/> Engine compartment (specify component if known) <input type="checkbox"/> Unknown

Describe any additional rollover or fire information here:

## ADDITIONAL VEHICLE INFORMATION

<p>IF THIS VEHICLE HAS NOT BEEN INSPECTED ASK THIS QUESTION:</p> <p>What is the year, make and model of your vehicle?</p>	<p>Year: 19 <u>90</u></p> <p>Make: <u>FORD</u></p> <p>Model: <u>F150 Supercab</u></p>
<p>Was there any damage to the vehicle that is not related to this crash?</p>	<p><input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/> Yes - describe:</p> <p><input type="checkbox"/> Unknown</p>
<p>Did any of the doors or hatch come open during the crash?</p>	<p><input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/> Yes - describe:</p> <p><input type="checkbox"/> Unknown</p>
<p>Did any of the windows break during the crash?</p>	<p><input checked="" type="checkbox"/> No</p> <p><input type="checkbox"/> Yes - describe:</p> <p><input type="checkbox"/> Unknown</p>
<p>Were any windows open (O) or partially open (P) prior to the crash?</p>	<p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes* * "O" = open "P" = partially open</p> <p><input type="checkbox"/> WS <input checked="" type="checkbox"/> LF <input type="checkbox"/> RF <input type="checkbox"/> LR <input type="checkbox"/> RR</p> <p><input type="checkbox"/> BL <input type="checkbox"/> Roof <input type="checkbox"/> Other</p> <p><input type="checkbox"/> Unknown</p>
<p>Did the glove compartment door come open during the crash?</p>	<p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes - describe:</p> <p><input checked="" type="checkbox"/> Unknown</p>
<p>Was there any cargo in the vehicle at the time of the crash?</p>	<p><input type="checkbox"/> No</p> <p><input type="checkbox"/> Yes - describe:</p> <p>Approximate weight - _____ pounds</p> <p><input checked="" type="checkbox"/> Unknown</p>
<p>Approximate mileage on the vehicle?</p>	<p>_____ miles</p> <p><input checked="" type="checkbox"/> Unknown</p>
<p>If you have not inspected the vehicle, or permission is needed, ask if you may look at their vehicle to assess the damage and ascertain the following:</p>	<p>Current location of the vehicle: _____</p> <p>Contact person: _____</p>
<p>Detail any notes, questions to ask interviewee (i.e., rescue personnel damage to vehicle) or directions to vehicle location here:</p>	

SPECIAL CRASH INVESTIGATION ADDENDUM: DRIVER INFORMATION	
Do you recall the type of development in the area of the crash?	<input type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Undeveloped <input type="checkbox"/> School <input checked="" type="checkbox"/> Other: <u>Recreational</u>
What were the weather conditions at the time of the crash?	<input type="checkbox"/> Clear (no clouds, no precipitation) <input type="checkbox"/> Cloudy (partially cloudy, no precipitation) <input type="checkbox"/> Overcast (full cloud cover, no precipitation) <input type="checkbox"/> Precipitating <input type="checkbox"/> Unknown
What was the type of precipitation?	<input checked="" type="checkbox"/> No precipitation <input type="checkbox"/> Unknown <input type="checkbox"/> Raining <input type="checkbox"/> Freezing rain <input type="checkbox"/> Sleet <input type="checkbox"/> Snowing <input type="checkbox"/> Hailing
What was the condition of the road surface?	<input type="checkbox"/> Dry <input type="checkbox"/> Wet <input type="checkbox"/> Snowy, slushy <input type="checkbox"/> Icy <input type="checkbox"/> Other (e.g., sand, dirt, oil on surface, etc.) <input type="checkbox"/> Unknown
How would you describe the amount of traffic at the time of the crash?	<input type="checkbox"/> Heavy <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Light <input type="checkbox"/> No other traffic present
What is your occupation?	<input type="checkbox"/> Professional <input type="checkbox"/> Technical <input type="checkbox"/> Government official <input type="checkbox"/> Management <input type="checkbox"/> Proprietors <input type="checkbox"/> Sales <input type="checkbox"/> Clerical <input type="checkbox"/> Craftsman and foreman <input type="checkbox"/> Service worker <input type="checkbox"/> Student <input checked="" type="checkbox"/> Farmers and farm-managers <input type="checkbox"/> Farm labors and foreman <input type="checkbox"/> Private household worker <input type="checkbox"/> Housewife <input type="checkbox"/> Other: _____
How long have you driven this vehicle?	Years: _____ Months: _____
How many miles do you think that you have driven it in the last 12-month period?	Miles: _____
How often do you drive this particular roadway?	<input type="checkbox"/> Daily <input type="checkbox"/> Twice weekly <input type="checkbox"/> Once weekly <input type="checkbox"/> Twice monthly <input type="checkbox"/> Once monthly <input checked="" type="checkbox"/> Very infrequently <input type="checkbox"/> First time on road
Where were you coming from just prior to the crash?	<input type="checkbox"/> Home <input type="checkbox"/> Work <input type="checkbox"/> School <input type="checkbox"/> Shopping <input type="checkbox"/> Social/recreational <input type="checkbox"/> Restaurant <input type="checkbox"/> Personal business <input type="checkbox"/> Other: <u>Fishing</u>
Where were you intending to go when the crash occurred?	<input checked="" type="checkbox"/> Home <input type="checkbox"/> Work <input type="checkbox"/> School <input type="checkbox"/> Shopping <input type="checkbox"/> Social/recreational <input type="checkbox"/> Restaurant <input type="checkbox"/> Personal business <input type="checkbox"/> Other: _____

## OCCUPANT DATA QUESTIONS

How many people were in your vehicle at the time of the crash?

	DRIVER	OCCUPANT # <u>2</u>	OCCUPANT # <u>3</u>
<b>Where was this person sitting in the vehicle?</b>  Front Left (FL)      Second Left (2L) Front Middle (FM)    Second Middle (2M) Front Right (FR)      Second Right (2R)  Third Left (3L)      Other (SPECIFY in block) Third Middle (3M) Third Right (3R)	FRONT LEFT	FR	2M
<b>What is the Sex, Haight, Weight, and Age of each occupant?</b>	<input checked="" type="checkbox"/> M <input type="checkbox"/> F - Not pregnant <input type="checkbox"/> F - Pregnant - # of months _____ <input type="checkbox"/> F - Unk. if pregnant HEIGHT: <u>6'3"</u> WEIGHT: <u>191</u> AGE: <u>43</u>	<input checked="" type="checkbox"/> M <input type="checkbox"/> F - Not pregnant <input type="checkbox"/> F - Pregnant - # of months _____ <input type="checkbox"/> F - Unk. if pregnant HEIGHT: <u>5'11"</u> WEIGHT: <u>150</u> AGE: <u>75</u>	<input type="checkbox"/> M <input checked="" type="checkbox"/> F - Not pregnant <input type="checkbox"/> F - Pregnant - # of months _____ <input type="checkbox"/> F - Unk. if pregnant HEIGHT: <u>5'10"</u> WEIGHT: <u>205</u> AGE: <u>66</u>
<b>Describe how occupant was seated</b>  A) Kneeling or standing on seat B) Lying on or across seat C) Kneeling, standing or sitting in front of seat D) Sitting sideways, turned to side or back E) Sitting on console F) Lying back in reclined position G) Other (specify) H) Unknown	<input type="checkbox"/> Leaning to left <input type="checkbox"/> Leaning to right <input checked="" type="checkbox"/> Sitting upright <input type="checkbox"/> Unknown  Indicate all letters that apply and describe if other than above	<input type="checkbox"/> Leaning to left <input type="checkbox"/> Leaning to right <input checked="" type="checkbox"/> Sitting upright <input type="checkbox"/> Unknown  Indicate all letters that apply and describe if other than above	<input type="checkbox"/> Leaning to left <input type="checkbox"/> Leaning to right <input checked="" type="checkbox"/> Sitting upright <input type="checkbox"/> Unknown  Indicate all letters that apply and describe if other than above
<b>Describe feet and hands/arms location just prior to impact (indicate all that apply)</b>  <u>FEET</u> A) On floor or foot controls B) One or both on dash C) One or both on seat D) Other (specify) E) Unknown  <u>HANDS / ARMS</u> F) Both hands on steering wheel G) One on wheel, other hand resting or adjusting a control (specify hand on wheel and control involved) H) Dialing a cellular phone (specify location and type of phone) I) Holding a cellular phone (specify location and type of phone) J) Bracing with one or both hands K) On lap L) One or both out of window (specify) M) Other (specify) N) Unknown	Indicate all letters that apply and further describe as needed  A	Indicate all letters that apply and further describe as needed  A	Indicate all letters that apply and further describe as needed  A  one hand on side
Describe any additional information here:			

OCCUPANT DATA CONTINUED ON NEXT PAGE

## OCCUPANT DATA QUESTIONS (continued)

	DRIVER	OCCUPANT # <u>2</u>	OCCUPANT # <u>3</u>
Was your / their back up against the seat back?	<input type="checkbox"/> No (describe) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Unknown	<input type="checkbox"/> No (describe) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Unknown	<input type="checkbox"/> No (describe) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Unknown
Does this seat position have an adjustable seat track, if so where was the seat located prior to impact?	<input type="checkbox"/> Not adjustable <input type="checkbox"/> Seat all the way forward <input checked="" type="checkbox"/> Between forward and middle <input type="checkbox"/> At middle position <input type="checkbox"/> Between middle and rear position <input type="checkbox"/> Seat all the way rearward <input type="checkbox"/> Unknown	<input type="checkbox"/> Not adjustable <input type="checkbox"/> Seat all the way forward <input checked="" type="checkbox"/> Between forward and middle <input type="checkbox"/> At middle position <input type="checkbox"/> Between middle and rear position <input type="checkbox"/> Seat all the way rearward <input type="checkbox"/> Unknown	<input checked="" type="checkbox"/> Not adjustable <input type="checkbox"/> Seat all the way forward <input type="checkbox"/> Between forward and middle <input type="checkbox"/> At middle position <input type="checkbox"/> Between middle and rear position <input type="checkbox"/> Seat all the way rearward <input type="checkbox"/> Unknown
Does this seat position have an adjustable seat back, if so where was the seat back located prior to impact?	<input type="checkbox"/> Not adjustable <input type="checkbox"/> Completely upright <input checked="" type="checkbox"/> Slightly reclined <input type="checkbox"/> Completely reclined	<input type="checkbox"/> Not adjustable <input checked="" type="checkbox"/> Completely upright <input type="checkbox"/> Slightly reclined <input type="checkbox"/> Completely reclined	<input checked="" type="checkbox"/> Not adjustable <input type="checkbox"/> Completely upright <input type="checkbox"/> Slightly reclined <input type="checkbox"/> Completely reclined
If this seat position has an adjustable seat back, where was the seat back located after impact?	<input type="checkbox"/> Not adjustable <input type="checkbox"/> Did not move (retained original position) <input type="checkbox"/> Completely reclined <input checked="" type="checkbox"/> Slightly reclined <input type="checkbox"/> Completely upright <input type="checkbox"/> Slightly forward of upright <input type="checkbox"/> Completely forward <input type="checkbox"/> Unknown	<input type="checkbox"/> Not adjustable <input type="checkbox"/> Did not move (retained original position) <input checked="" type="checkbox"/> Completely reclined <input type="checkbox"/> Slightly reclined <input type="checkbox"/> Completely upright <input type="checkbox"/> Slightly forward of upright <input type="checkbox"/> Completely forward <input type="checkbox"/> Unknown	<input checked="" type="checkbox"/> Not adjustable <input type="checkbox"/> Did not move (retained original position) <input type="checkbox"/> Completely reclined <input type="checkbox"/> Slightly reclined <input type="checkbox"/> Completely upright <input type="checkbox"/> Slightly forward of upright <input type="checkbox"/> Completely forward <input type="checkbox"/> Unknown

Did this vehicle have a cellular phone in it during the crash?

☒ No☐ Yes - describe type: \_\_\_\_\_

(e.g., portable, mounted in vehicle, flip phone, etc.)

☐ Unknown*(Note to researcher: try to determine any driver distractions without implying fault)*

Was the driver doing any of the following? (check all that apply - and specify)

- ☐ Talking to or listening to another occupant (specify):  
☐ Was there a moving object in vehicle (specify):  
☐ Talking or listening on a cellular phone (specify):  
☐ Dialing a cellular phone (specify):  
☐ Adjusting climate control (specify):  
☐ Adjusting radio, CD or cassette player (specify):  
☐ Using other device or object in vehicle (specify):  
☐ Sleepy / asleep (specify):  
☐ Distracted by outside person, object, or event (specify):  
☐ Eating or drinking (specify):  
☐ Smoking related (specify):  
☐ Other (specify):  
☒ Unknown

Describe any additional information here:

## RESTRAINT INFORMATION

	DRIVER	OCCUPANT # 2	OCCUPANT # 3
Describe the seat belt available for the seat position  NOTE: If a belt is not available for a seat position – describe if removed or not functional.	<input type="checkbox"/> Unknown <input type="checkbox"/> Lap belt <input type="checkbox"/> Shoulder belt <input checked="" type="checkbox"/> Lap & Shoulder <input type="checkbox"/> Not available * * Describe:	<input type="checkbox"/> Unknown <input type="checkbox"/> Lap belt <input type="checkbox"/> Shoulder belt <input checked="" type="checkbox"/> Lap & Shoulder <input type="checkbox"/> Not available * * Describe:	<input checked="" type="checkbox"/> Unknown <input checked="" type="checkbox"/> Lap belt <input type="checkbox"/> Shoulder belt <input type="checkbox"/> Lap & Shoulder <input type="checkbox"/> Not available * * Describe:
Do any of the belts have a motorized track or lock?	<input type="checkbox"/> Unknown <input type="checkbox"/> No <input type="checkbox"/> Yes *  * If "Yes", were they working properly?  <input type="checkbox"/> Yes <input type="checkbox"/> No (describe):	<input type="checkbox"/> Unknown <input type="checkbox"/> No <input type="checkbox"/> Yes *  * If "Yes", were they working properly?  <input type="checkbox"/> Yes <input type="checkbox"/> No (describe):	<input type="checkbox"/> Unknown <input type="checkbox"/> No <input type="checkbox"/> Yes *  * If "Yes", were they working properly?  <input type="checkbox"/> Yes <input type="checkbox"/> No (describe):
Do any of the belts attach to the door such that when the door is opened the belt travels with the door?	<input type="checkbox"/> Unknown <input type="checkbox"/> No <input type="checkbox"/> Yes *  * If "Yes", does it cross: <input type="checkbox"/> Chest <input type="checkbox"/> Lap <input type="checkbox"/> Both	<input type="checkbox"/> Unknown <input type="checkbox"/> No <input type="checkbox"/> Yes *  * If "Yes", does it cross: <input type="checkbox"/> Chest <input type="checkbox"/> Lap <input type="checkbox"/> Both	<input type="checkbox"/> Unknown <input type="checkbox"/> No <input type="checkbox"/> Yes *  * If "Yes", does it cross: <input type="checkbox"/> Chest <input type="checkbox"/> Lap <input type="checkbox"/> Both
Were you [and other occupant(s)] wearing a seat belt during the accident?	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Unknown	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Unknown	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Unknown

## SKIP THE FOLLOWING IF NO SEAT BELT WAS WORN

What type of belt were you [and other occupant(s)] wearing?	<input type="checkbox"/> Lap belt <input type="checkbox"/> Shoulder belt <input type="checkbox"/> Lap & Shoulder <input type="checkbox"/> Unknown	<input type="checkbox"/> Lap belt <input type="checkbox"/> Shoulder belt <input type="checkbox"/> Lap & Shoulder <input type="checkbox"/> Unknown	<input checked="" type="checkbox"/> Lap belt <input type="checkbox"/> Shoulder belt <input type="checkbox"/> Lap & Shoulder <input type="checkbox"/> Unknown
How was the lap belt situated?	<input type="checkbox"/> Over shoulder <input type="checkbox"/> Under the arm <input type="checkbox"/> Behind back <input type="checkbox"/> Behind seat <input type="checkbox"/> Other (specify):	<input type="checkbox"/> Over shoulder <input type="checkbox"/> Under the arm <input type="checkbox"/> Behind back <input type="checkbox"/> Behind seat <input type="checkbox"/> Other (specify):	<input checked="" type="checkbox"/> Lap belt <input type="checkbox"/> Under the arm <input type="checkbox"/> Behind back <input type="checkbox"/> Behind seat <input type="checkbox"/> Other (specify):
How was the shoulder belt situated?	<input type="checkbox"/> Over shoulder <input type="checkbox"/> Under the arm <input type="checkbox"/> Behind back <input type="checkbox"/> Behind seat <input type="checkbox"/> Other (specify):	<input type="checkbox"/> Over shoulder <input type="checkbox"/> Under the arm <input type="checkbox"/> Behind back <input type="checkbox"/> Behind seat <input type="checkbox"/> Other (specify):	<input checked="" type="checkbox"/> Over shoulder <input type="checkbox"/> Under the arm <input type="checkbox"/> Behind back <input type="checkbox"/> Behind seat <input type="checkbox"/> Other (specify):

Describe any breaks, tears, or failures to any of the seat belts:

## EJECTION, ENTRAPMENT, MOBILITY INFORMATION

	DRIVER	OCCUPANT # <u>2</u>	OCCUPANT # <u>3</u>
Was any part of your body thrown outside the vehicle during the crash?	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes * <input type="checkbox"/> Unknown  * If "Yes" - what part(s) were ejected, and what area of the vehicle was involved.	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes * <input type="checkbox"/> Unknown  * If "Yes" - what part(s) were ejected, and what area of the vehicle was involved.	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes * <input type="checkbox"/> Unknown  * If "Yes" - what part(s) were ejected, and what area of the vehicle was involved.
Was anyone pinned in the vehicle?  ④ D2 Door Jammed	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes — physically pinned — jammed doors — fire, etc. <input type="checkbox"/> Unknown Detail any entrapment	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes — physically pinned — jammed doors — fire, etc. <input type="checkbox"/> Unknown Detail any entrapment	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes — physically pinned — jammed doors — fire, etc. <input type="checkbox"/> Unknown Detail any entrapment
How did you [and other occupant(s)] exit the vehicle?	<input type="checkbox"/> Fatal before removed <input type="checkbox"/> Removed while unconscious or disoriented <input type="checkbox"/> Removed due to injuries <input checked="" type="checkbox"/> Exited with some assistance <input type="checkbox"/> Exited under own power <input type="checkbox"/> Fully ejected <input type="checkbox"/> Unknown	<input type="checkbox"/> Fatal before removed <input type="checkbox"/> Removed while unconscious or disoriented <input type="checkbox"/> Removed due to injuries <input checked="" type="checkbox"/> Exited with some assistance <input type="checkbox"/> Exited under own power <input type="checkbox"/> Fully ejected <input type="checkbox"/> Unknown	<input type="checkbox"/> Fatal before removed <input type="checkbox"/> Removed while unconscious or disoriented <input type="checkbox"/> Removed due to injuries <input checked="" type="checkbox"/> Exited with some assistance <input type="checkbox"/> Exited under own power <input type="checkbox"/> Fully ejected <input type="checkbox"/> Unknown

Further describe any ejection, entrapment, or mobility information here:

## AIR BAG INFORMATION

## WAS THIS VEHICLE EVER EQUIPPED WITH AN AIR BAG?

[ ] YES (IF "YES" COMPLETE THIS SECTION)

[X] NO [ ] UNKNOWN (IF "NO" OR "UNKNOWN" SKIP THIS SECTION)

	"OTHER" AIR BAG SPECIFY: _____ OCCUPANT # _____	"OTHER" AIR BAG SPECIFY: _____ OCCUPANT # _____	"OTHER" AIR BAG SPECIFY: _____ OCCUPANT # _____
Had this vehicle been in any previous crashes?  [ ] NO [ ] YES - continue to right [ ] UNKNOWN - go to box below	[ ] Prior crash <u>without</u> deployment [ ] One prior crash <u>with</u> deployment [ ] > 1, <u>with</u> at least one deployment [ ] Previous accident(s) unknown if deployed  <u>IF PRIOR DEPLOYMENT</u> [ ] CHECK IF NOT REINSTALLED	[ ] Prior crash <u>without</u> deployment [ ] One prior crash <u>with</u> deployment [ ] > 1, <u>with</u> at least one deployment [ ] Previous accident(s) unknown if deployed  <u>IF PRIOR DEPLOYMENT</u> [ ] CHECK IF NOT REINSTALLED	[ ] Prior crash <u>without</u> deployment [ ] One prior crash <u>with</u> deployment [ ] > 1, <u>with</u> at least one deployment [ ] Previous accident(s) unknown if deployed  <u>IF PRIOR DEPLOYMENT</u> [ ] CHECK IF NOT REINSTALLED
Type of air bag?	[ ] Original equipment [ ] Retrofitted [ ] Replacement [ ] Unknown	[ ] Original equipment [ ] Retrofitted [ ] Replacement [ ] Unknown	[ ] Original equipment [ ] Retrofitted [ ] Replacement [ ] Unknown
Had any prior maintenance / service been performed on the air bag system?	[ ] No [ ] Unknown [ ] Yes - Specify:	[ ] No [ ] Unknown [ ] Yes - Specify:	[ ] No [ ] Unknown [ ] Yes - Specify:
Did the air bag inflate during this crash?	[ ] Yes [ ] Unknown [ ] No  If "NO" was the wiring disconnected prior to the crash?  [ ] Yes [ ] No [ ] Unk	[ ] Yes [ ] Unknown [ ] No  If "NO" was the wiring disconnected prior to the crash?  [ ] Yes [ ] No [ ] Unk	[ ] Yes [ ] Unknown [ ] No  If "NO" was the wiring disconnected prior to the crash?  [ ] Yes [ ] No [ ] Unk
Was the person in this position wearing any type of eye-wear? (Eyeglasses, sunglasses, contact lenses)	[ ] No [ ] Unknown [ ] Yes - Specify:	[ ] No [ ] Unknown [ ] Yes - Specify:	[ ] No [ ] Unknown [ ] Yes - Specify:
Was the air bag in this position contacted by another occupant?	[ ] No [ ] Unknown [ ] Yes - Specify:	[ ] No [ ] Unknown [ ] Yes - Specify:	[ ] No [ ] Unknown [ ] Yes - Specify:

Describe any additional information here:



## CHILD SAFETY SEAT INFORMATION

WAS THERE A PERSON IN A CHILD SAFETY SEAT IN THIS VEHICLE?

☐ YES (IF "YES" COMPLETE THIS SECTION)☒ NO ☐ UNKNOWN (IF "NO" OR "UNKNOWN" SKIP THIS SECTION)

	DRIVER	OCCUPANT # ____	OCCUPANT # ____
Manufacturer and model of the safety seat?			
Type of safety seat?		<input type="checkbox"/> Infant <input type="checkbox"/> Toddler <input type="checkbox"/> Convertible <input type="checkbox"/> Booster <input type="checkbox"/> Integral <input type="checkbox"/> Other Specify: _____ <input type="checkbox"/> Unknown	<input type="checkbox"/> Infant <input type="checkbox"/> Toddler <input type="checkbox"/> Convertible <input type="checkbox"/> Booster <input type="checkbox"/> Integral <input type="checkbox"/> Other Specify: _____ <input type="checkbox"/> Unknown
What direction was it facing prior to the crash?		<input type="checkbox"/> Front <input type="checkbox"/> Rearward <input type="checkbox"/> Unknown	<input type="checkbox"/> Front <input type="checkbox"/> Rearward <input type="checkbox"/> Unknown
Was a seat belt used to hold the seat in place?		<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unknown	<input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Unknown
How was the seat belt secured to the child seat?		<input type="checkbox"/> Looped through designated rear framing studs <input type="checkbox"/> Looped through arm rest slots <input type="checkbox"/> Belt across safety shield <input type="checkbox"/> Looped through rear frame outside the designated framing struts <input type="checkbox"/> Other (specify): _____ <input type="checkbox"/> Unknown	<input type="checkbox"/> Looped through designated rear framing studs <input type="checkbox"/> Looped through arm rest slots <input type="checkbox"/> Belt across safety shield <input type="checkbox"/> Looped through rear frame outside the designated framing struts <input type="checkbox"/> Other (specify): _____ <input type="checkbox"/> Unknown
What was the safety seat equipped with at time of purchase?		<input type="checkbox"/> Harness <input type="checkbox"/> Shield <input type="checkbox"/> Tether <input type="checkbox"/> Unknown	<input type="checkbox"/> Harness <input type="checkbox"/> Shield <input type="checkbox"/> Tether <input type="checkbox"/> Unknown
Were any of these added after they owned the safety seat?		<input type="checkbox"/> Harness <input type="checkbox"/> Shield <input type="checkbox"/> Tether <input type="checkbox"/> None <input type="checkbox"/> Unknown	<input type="checkbox"/> Harness <input type="checkbox"/> Shield <input type="checkbox"/> Tether <input type="checkbox"/> None <input type="checkbox"/> Unknown

Describe any additional information here:

INJURY INFORMATION			
	DRIVER	OCCUPANT # <u>2</u>	OCCUPANT # <u>3</u>
<b>Were you (or any other occupants) injured?</b> <i>► If "YES" go to manikin page and record injuries in detail</i> <i>► If "NO" ask next questions</i>	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Unknown	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Unknown	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Unknown
<b>Did you (or any other occupants) receive any of the following:</b> <i>(If any injuries are checked, go to the manikin page and record location, lesion, and source)</i>	<input type="checkbox"/> Cuts <input type="checkbox"/> Abrasions <input type="checkbox"/> Bruises <input type="checkbox"/> Broken bones <input type="checkbox"/> Head, skull, brain <input type="checkbox"/> Internal injury <input type="checkbox"/> Sprains, strains <input type="checkbox"/> Other (specify):	<input type="checkbox"/> Cuts <input type="checkbox"/> Abrasions <input type="checkbox"/> Bruises <input type="checkbox"/> Broken bones <input type="checkbox"/> Head, skull, brain <input type="checkbox"/> Internal injury <input type="checkbox"/> Sprains, strains <input type="checkbox"/> Other (specify):	<input type="checkbox"/> Cuts <input type="checkbox"/> Abrasions <input type="checkbox"/> Bruises <input type="checkbox"/> Broken bones <input type="checkbox"/> Head, skull, brain <input type="checkbox"/> Internal injury <input type="checkbox"/> Sprains, strains <input type="checkbox"/> Other (specify):
<b>YES CHECKED! THE MANIKIN PAGE(S)</b>			
<b>Did you (or any other occupants) receive any medical treatment?</b> (check all that apply)	<input checked="" type="checkbox"/> Hospital <input type="checkbox"/> Medical clinic <input type="checkbox"/> Paramedics at scene <input type="checkbox"/> Doctor's office <input type="checkbox"/> Treated by self <input type="checkbox"/> Unknown	<input checked="" type="checkbox"/> Hospital <input type="checkbox"/> Medical clinic <input type="checkbox"/> Paramedics at scene <input type="checkbox"/> Doctor's office <input type="checkbox"/> Treated by self <input type="checkbox"/> Unknown	<input checked="" type="checkbox"/> Hospital <input type="checkbox"/> Medical clinic <input type="checkbox"/> Paramedics at scene <input type="checkbox"/> Doctor's office <input type="checkbox"/> Treated by self <input type="checkbox"/> Unknown
<b>Were you (or any other occupants) hospitalized?</b>	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes - number of days _____ <input type="checkbox"/> Unknown	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes - number of days _____ <input type="checkbox"/> Unknown	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes - number of days _____ <input type="checkbox"/> Unknown
<b>Were you (or any other occupants) treated and released from the emergency room?</b>	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Unknown	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <i>went later</i> <input type="checkbox"/> Unknown	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> Unknown
<b>Name of medical treatment facility?</b>	<i>Hosp</i>	<i>Hosp</i>	<i>Hosp</i>
<b>Have you (or any other occupants) received any follow-up treatment?</b>	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes - describe: _____ <input type="checkbox"/> Unknown	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes - describe: _____ <input type="checkbox"/> Unknown	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes - describe: _____ <input type="checkbox"/> Unknown
<b>Have you (or any other occupants) lost any days from work or school (college) due to the crash?</b>	<input type="checkbox"/> No <input checked="" type="checkbox"/> Not working prior to crash <input type="checkbox"/> Yes - number of days _____ <input type="checkbox"/> Unknown	<input type="checkbox"/> No <input checked="" type="checkbox"/> Not working prior to crash <input type="checkbox"/> Yes - number of days _____ <input type="checkbox"/> Unknown	<input type="checkbox"/> No <input checked="" type="checkbox"/> Not working prior to crash <input type="checkbox"/> Yes - number of days _____ <input type="checkbox"/> Unknown
<b>IF REQUIRED:</b> <b>Will you sign a medical release?</b> <i>* If not an in-person interview, make appointment to have release signed</i>	<input type="checkbox"/> No <input type="checkbox"/> Yes* <input type="checkbox"/> Unknown DATE: _____ TIME: _____ PLACE: _____	<input type="checkbox"/> No <input type="checkbox"/> Yes* <input type="checkbox"/> Unknown DATE: _____ TIME: _____ PLACE: _____	<input type="checkbox"/> No <input type="checkbox"/> Yes* <input type="checkbox"/> Unknown DATE: _____ TIME: _____ PLACE: _____

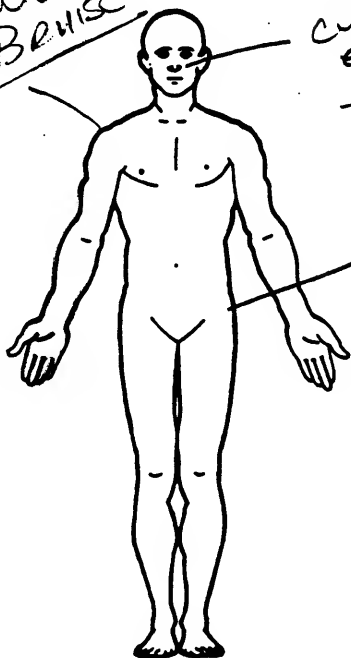
PSU Number 10Case Number-Stratum 9510Vehicle Number 02Occupant Number 01

## INJURY DATA FROM INTERVIEWEE(S)

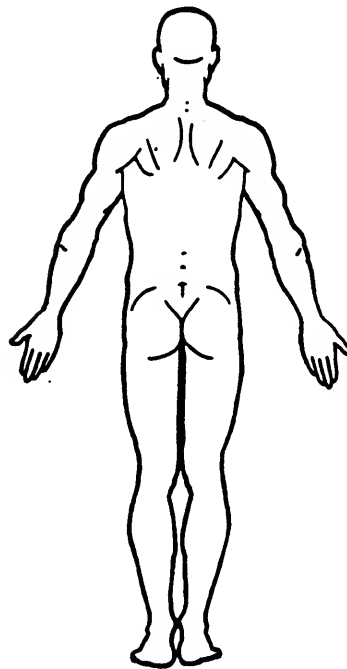
Indicate the Location, Lesion, Detail, and Source of all injuries. Specify interviewee(s):

wife-occupant #3  
& Husband / DRIVER

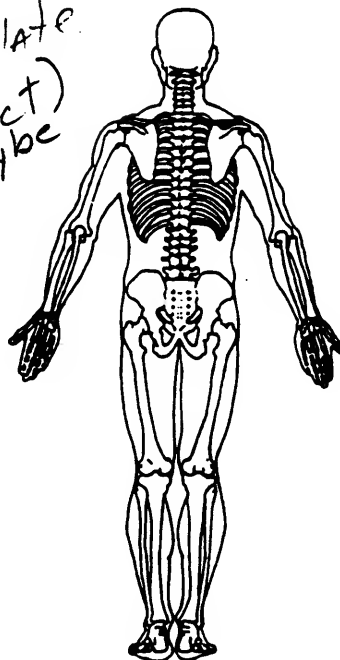
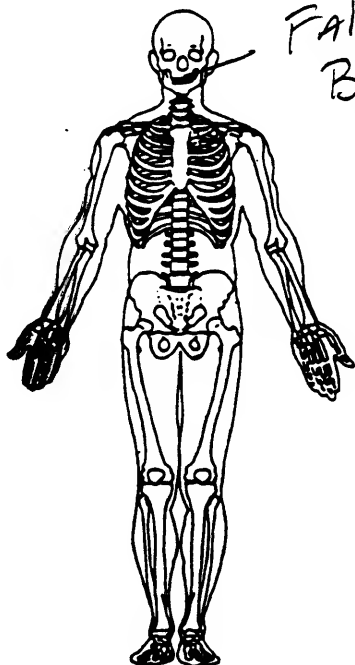
## SOFT TISSUE/INTERNAL INJURIES



Ⓛ HIP  
And Bruise  
side



## SKELETAL INJURIES



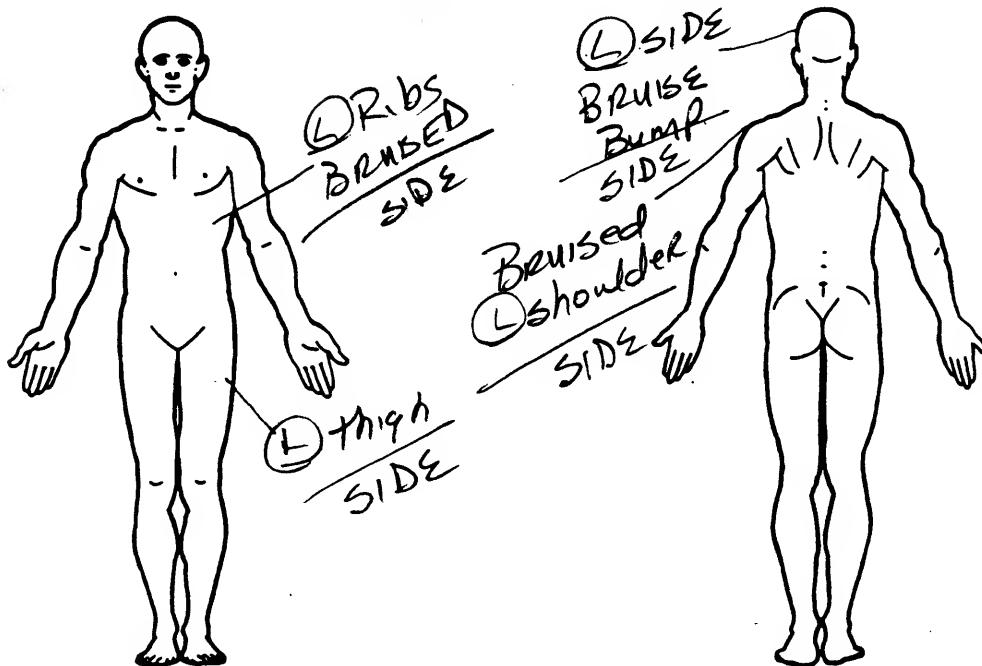
The space provided on the back of this page may be used to further detail injuries noted by the interviewee(s).

PSU Number 10Case Number—Stratum 9510Vehicle Number 02Occupant Number 03

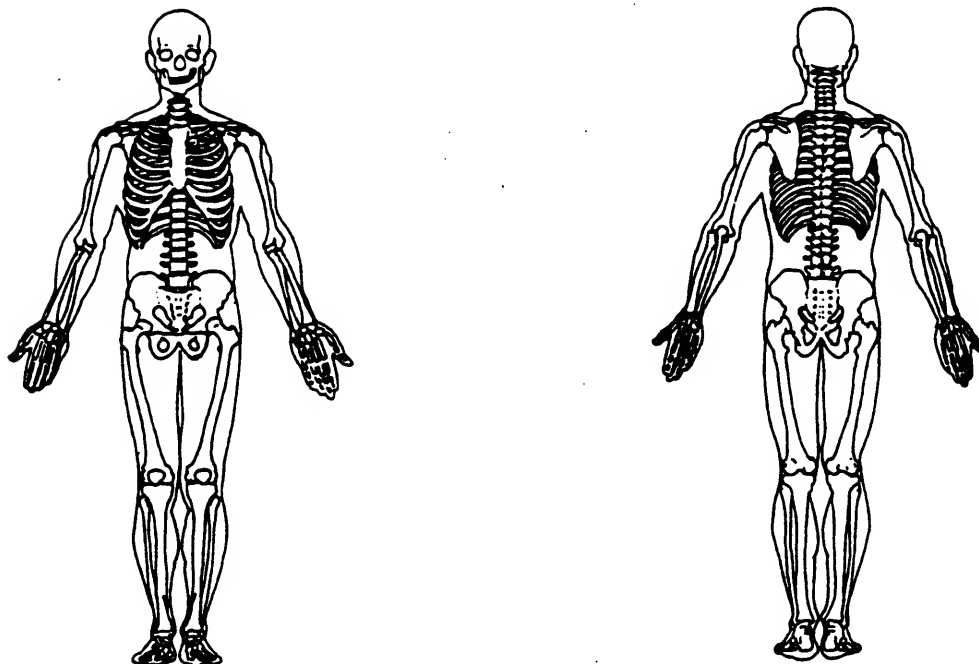
## INJURY DATA FROM INTERVIEWEE(S)

Indicate the Location, Lesion, Detail, and Source of all injuries. Specify interviewee(s): This occupant wife of driver

## SOFT TISSUE/INTERNAL INJURIES



## SKELETAL INJURIES



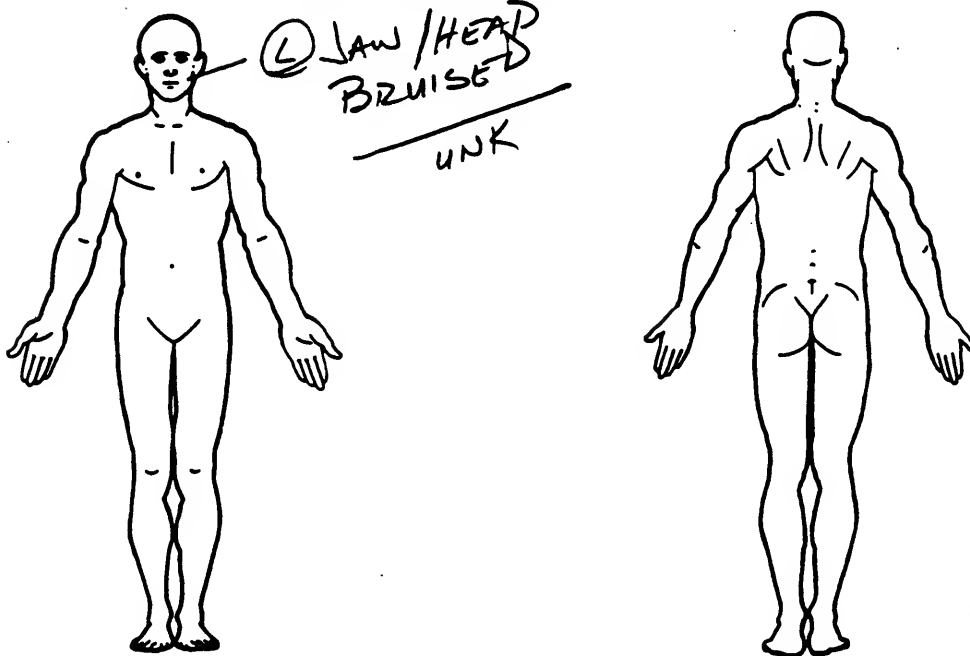
The space provided on the back of this page may be used to further detail injuries noted by the interviewee(s).

PSU Number 10 Case Number-Stratum 9510 Vehicle Number 02 Occupant Number 02

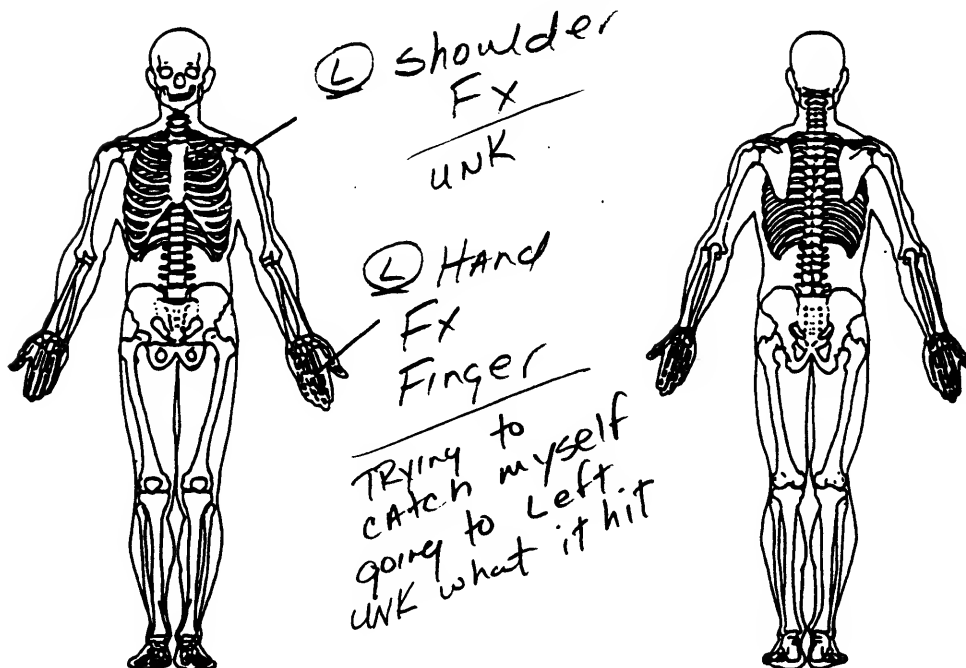
## INJURY DATA FROM INTERVIEWEE(S)

Indicate the Location, Lesion, Detail, and Source of all injuries. Specify interviewee(s): this occup

## SOFT TISSUE/INTERNAL INJURIES



## SKELETAL INJURIES



The space provided on the back of this page may be used to further detail injuries noted by the interviewee(s).

**Appendix H:**

**NASS CDS OCCUPANT ASSESSMENT FORM:**

**CASE VEHICLE DRIVER**



## OCCUPANT ASSESSMENT FORM

1. Primary Sampling Unit Number

2. Case Number - Stratum

3. Vehicle Number

4. Occupant Number

### OCCUPANT'S CHARACTERISTICS

5. Occupant's Age

Code actual age at time of accident.

(00) Less than one year old (specify by month):

(97) 97 years and older

(99) Unknown

6. Occupant's Sex

(1) Male

(2) Female-not reported pregnant

(3) Female-pregnant-1st trimester(1st-3rd month)

(4) Female-pregnant-2nd trimester(4th-6th month)

(5) Female-pregnant-3rd trimester(7th-9th month)

(6) Female-pregnant-term unknown

(9) Unknown

7. Occupant's Height

Code actual height to the nearest  
centimeter.

(999) Unknown

67 inches X 2.54 = 170 centimeters

8. Occupant's Weight

Code actual weight to the nearest  
kilogram.

(999) Unknown

205 pounds X .4536 = 92.98 kilograms

9. Occupant's Role

(1) Driver

(2) Passenger

(9) Unknown

### OCCUPANT'S SEATING

10. Occupant's Seat Position

*Front Seat*

(11) Left side

(12) Middle

(13) Right side

(14) Other (specify):

(15) On or in the lap of another occupant

*Second Seat*

(21) Left side

(22) Middle

(23) Right side

(24) Other (specify):

(25) On or in the lap of another occupant

*Third Seat*

(31) Left side

(32) Middle

(33) Right side

(34) Other (specify):

(35) On or in the lap of another occupant

*Fourth Seat*

(41) Left side

(42) Middle

(43) Right side

(44) Other (specify):

(45) On or in the lap of another occupant

(97) In or on unenclosed area

(98) Other seat (specify):

(99) Unknown

11. Occupant's Posture

(0) Normal posture

*Abnormal posture*

(1) Kneeling or standing on seat

(2) Lying on or across seat

(3) Kneeling, standing or sitting in front of seat

(4) Sitting sideways or turned to talk with another  
occupant or to look out a rear window

(5) Sitting on a console

(6) Lying back in a reclined seat position

(7) Bracing with feet or hands on a surface in front  
of seat

(8) Other abnormal posture (specify):

(9) Unknown

## EJECTION/ENTRAPMENT

12. Ejection 0

- (0) No ejection
- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, unknown degree
- (9) Unknown

13. Ejection Area 0

- (0) No ejection
- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear
- (7) Roof
- (8) Other area (e.g., back of pickup, etc.)  
(specify): \_\_\_\_\_
- (9) Unknown

14. Ejection Medium 0

- (0) No ejection
- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify): \_\_\_\_\_
- (5) Integral structure
- (8) Other medium (specify): \_\_\_\_\_
- (9) Unknown

15. Medium Status (Immediately Prior To Impact) 0

- (0) No ejection
- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

16. Entrapment 0

- (0) Not entrapped/exit not inhibited
- (1) Entrapped/pinned - mechanically restrained
- (2) Could not exit vehicle due to jammed doors, fire, etc.  
(specify): \_\_\_\_\_
- (9) Unknown

17. Occupant Mobility 4

- (0) Occupant fatal before removed from vehicle
- (1) Removed from vehicle while unconscious or disoriented
- (2) Removed from vehicle due to injuries
- (3) Exited vehicle with some assistance
- (4) Exited vehicle under own power
- (5) Occupant fully ejected
- (9) Unknown



## BELT SYSTEM FUNCTION

18. Manual (Active) Belt System Availability 4

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available—type unknown

*Integral Belt Partially Destroyed*

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)
- (8) Other belt (specify):

(9) Unknown

19. Manual (Active) Belt System Use 04

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify):

- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used—type unknown
- (08) Other belt used (specify):

- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat—type unknown
- (18) Other belt used with child safety seat (specify):
- (99) Unknown if belt used

20. Proper Use of Manual (Active) Belts 1

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

*Belt Used Improperly*

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify):

(8) Other improper use of manual belt system (specify):

(9) Unknown

21. Manual (Active) Belt Failure Modes During Accident 1

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):

(6) Broken retractor

(7) Combination of above (specify):

(8) Other manual belt failure (specify):

(9) Unknown

22. Shoulder Belt Upper Anchorage Adjustment 1

- (0) No shoulder belt
- (1) No upper anchorage adjustment for shoulder belt

*Adjustable Shoulder Belt Upper Anchorage*

- (2) In full up position
- (3) In mid position
- (4) In full down position
- (5) Position unknown
- (9) Unknown if position has adjustable upper anchorage adjustment

23. Automatic (Passive) Belt System Availability/Function 0

- (0) Not equipped/not available
- (1) 2 point automatic belts
- (2) 3 point automatic belts
- (3) Automatic belts - type unknown

*Non-functional*

- (4) Automatic belts destroyed or rendered inoperative
- (9) Unknown

24. Automatic (Passive) Belt System Use 0

- (0) Not equipped/not available/destroyed or rendered inoperative
- (1) Automatic belt in use
- (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify):
- (3) Automatic belt use unknown
- (9) Unknown

25. Automatic (Passive) Belt System Type 0

- (0) Not equipped/not available
- (1) Non-motorized system
- (2) Motorized system
- (9) Unknown

26. Proper Use of Automatic (Passive) Belt System 0

- (0) Not equipped/not available/not used
- (1) Automatic belt used properly
- (2) Automatic belt used properly with child safety seat

*Automatic Belt Used Improperly*

- (3) Automatic shoulder belt worn under arm
- (4) Automatic shoulder belt worn behind back
- (5) Automatic belt worn around more than one person
- (6) Lap portion of automatic belt worn on abdomen
- (7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify):

(8) Other improper use of automatic belt system (specify):

(9) Unknown

27. Automatic (Passive) Belt Failure Modes During Accident 0

- (0) Not equipped/not available/not in use
- (1) No automatic belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):

(6) Broken retractor

(7) Combination of above (specify):

(8) Other automatic belt failure (specify):

(9) Unknown

## POLICE REPORTED RESTRAINT USE

## AIR BAG SYSTEM FUNCTION

28. Police Reported Belt Use 4

- (0) None used  
 (1) Police did not indicate belt use  
 (2) Shoulder belt  
 (3) Lap belt  
 (4) Lap and shoulder belt  
 (5) Belt used, type not specified  
 (6) Child safety seat  
 (7) Automatic belt  
 (8) Other type belt, (specify):  
 (9) Police indicated "unknown"

29. Police Reported Air Bag Availability/Function 2

- (0) No air bag available  
 (1) Police did not indicate air bag availability/function  
 (2) Deployed  
 (3) Not deployed  
 (4) Unknown if deployed  
 (9) Police indicated "unknown"

Check the Primary Source Used In Determining Belt Use.

- ☐ Not equipped/not available/destroyed or rendered inoperative  
☒ Vehicle inspection  
☐ Official injury data  
☐ Driver/occupant interview  
☐ Other (specify):  
☐ Unknown if belt used

30. Frontal Air Bag System Availability/Function (This Occupant Position) 1

- (0) Not equipped/not available  
 (1) Air bag

*Non-functional*

- (2) Air bag disconnected (specify):  
 (3) Air bag not reinstalled  
 (9) Unknown

31. Frontal Air Bag System Deployment (This Occupant Position) 1

- (0) Not equipped/not available  
 (1) Deployed during accident (as a result of impact)  
 (2) Deployed inadvertently just prior to accident  
 (3) Deployed, details unknown  
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)  
 (5) Unknown if deployed  
 (7) Nondeployed  
 (9) Unknown

32. Other Than First Seat Frontal Air Bag Availability/Function (This Occupant Position) 0

- (0) Not equipped/not available  
 (1) Air bag

*Non-functional*

- (2) Air bag disconnected (specify):

- (3) Air bag not reinstalled  
 (9) Unknown

*Specify type of "other" air bag present:*

33. Air Bag(s) Deployment, Other Than First Seat Frontal (This Occupant Position) 0

- (0) Not equipped with an "other" air bag  
 (1) Deployed during accident (as a result of impact)  
 (2) Deployed inadvertently just prior to accident  
 (3) Deployed, details unknown  
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)  
 (5) Unknown if deployed  
 (7) Nondeployed  
 (9) Unknown

34. Are There Indications of Air Bag System Failure? (This Occupant Position) 1

- (0) Not equipped/not available  
 (1) No  
 (2) Yes (specify):

- (9) Unknown

## FIRST SEAT FRONTAL AIR BAG SYSTEM EVALUATION

35. Had Vehicle Been in Previous Accident(s)? 0

- (0) Not equipped/not available  
(1) No previous accidents

Yes

- (2) Previous accident(s) without deployment(s)  
(3) One previous accident with deployment  
(4) More than one previous accident with at least one deployment  
(8) Previous accidents, unknown deployment status  
(9) Unknown

36. Type of Air Bag 1

- (0) Not equipped/not available  
(1) Original manufacturer installed system  
(2) Retrofitted air bag  
(3) Replacement air bag  
(8) Unknown type of air bag  
(9) Unknown

37. Had Any Prior Maintenance/Service Been Performed On This Air Bag System? 1

- (0) Not equipped/not available  
(1) No prior maintenance  
(2) Yes, prior maintenance (specify):  
(9) Unknown

38. Air Bag Deployment Accident Event Sequence Number 01

- (00) Not equipped/not available  
01 Code the accident event sequence number that initiated the air bag deployment  
(96) Deployed, unknown event  
(97) Not deployed  
(98) Unknown if deployed  
(99) Unknown

39. CDC For Air Bag Deployment Impact 1

- (0) Not equipped/not available  
(1) Highest delta V  
(2) Second highest delta V  
(3) Other non-coded delta V (specify):  
(6) Deployed, unknown event  
(7) Not deployed  
(8) Unknown if deployed  
(9) Unknown

40. Longitudinal Component of Delta V For Air Bag Deployment Impact 0036

- ( \_000) Not equipped/not available  
Code the value of the delta V for the impact that initiated the air bag deployment  
( \_996) Deployment, unknown longitudinal Delta V  
( \_997) Not deployed  
( \_998) Unknown if deployed  
( \_999) Unknown

41. Did Air Bag Module Cover Flap(s) Open At Designated Tear Points? 2

- (0) Not equipped/not available  
(1) No  
(2) Yes  
(3) Deployed, unknown if flap(s) opened at designated tear points  
(7) Not deployed  
(8) Unknown if deployed  
(9) Unknown

42. Were Air Bag Module Cover Flap(s) Damaged? 1

- (0) Not equipped/not available  
(1) No  
(2) Yes (specify):  
(3) Deployed, unknown if air bag module cover flap(s) damaged  
(7) Not deployed  
(8) Unknown if deployed  
(9) Unknown

43. Was There Damage To The Air Bag? 01

- (00) Not equipped/not available  
(01) Not damaged

Yes - Air Bag Damage

- (02) Ruptured  
(03) Cut  
(04) Torn  
(05) Holed  
(06) Burned  
(07) Abraded  
(88) Other damage (specify):  
(95) Damaged, details unknown  
(96) Deployed, unknown if damaged  
(97) Not deployed  
(98) Unknown if deployed  
(99) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM  
EVALUATION *continued*

44. Source of Air Bag Damage 01  
 (00) Not equipped/not available  
 (01) Not damaged  
 (02) Object worn by occupant, (specify):  
 (03) Object carried by occupant, (specify):  
 (04) Adaptive/assistive controls, (specify):  
 (05) Fire in vehicle  
 (06) Thermal burns  
 (07) Rescue or emergency efforts  
 (88) Other damage source (specify):  
 (95) Damaged, unknown source  
 (96) Deployed, unknown if damaged  
 (97) Not deployed  
 (98) Unknown if deployed  
 (99) Unknown
45. Was The Air Bag Tethered? 1  
 (0) Not equipped/not available  
 (1) No  
 (2) Yes (specify number of tether straps):  
 (3) Deployed, unknown if tethered  
 (7) Not deployed  
 (8) Unknown if deployed  
 (9) Unknown
46. Did The Air Bag Have Vent Ports? 2  
 (0) Not equipped/not available  
 (1) No  
 (2) Yes (specify number of vent ports):  
 (3) Deployed, unknown if vent ports present  
 (7) Not deployed  
 (8) Unknown if deployed  
 (9) Unknown
47. Was the Air Bag in this Occupant's Position Contacted by Another Occupant? 1  
 (0) Not equipped/not available  
 (1) No  
 (2) Yes (specify):  
 (3) Deployed, unknown if other occupant contact to air bag  
 (7) Not deployed  
 (8) Unknown if deployed  
 (9) Unknown
48. Was This Occupant Wearing Eye-wear? 1  
 (0) Not equipped/not available  
 (1) No  
 (2) Eyeglasses/sunglasses  
 (3) Contact lenses  
 (4) Deployed, unknown if eyewear worn  
 (7) Not deployed  
 (8) Unknown if deployed  
 (9) Unknown

## HEAD RESTRAINT AND SEAT EVALUATION

49. Head Restraint Type/Damage by Occupant at This Occupant Position 3  
 (0) No head restraints  
 (1) Integral—no damage  
 (2) Integral—damaged during accident  
 (3) Adjustable—no damage  
 (4) Adjustable—damaged during accident  
 (5) Add-on—no damage  
 (6) Add-on—damaged during accident  
 (8) Other (specify):  
 (9) Unknown
50. Seat Type (this Occupant Position) 02  
 (00) Occupant not seated or no seat  
 (01) Bucket  
 (02) Bucket with folding back  
 (03) Bench  
 (04) Bench with separate back cushions  
 (05) Bench with folding back(s)  
 (06) Split bench with separate back cushions  
 (07) Split bench with folding back(s)  
 (08) Pedestal (i.e., column supported)  
 (09) Box mounted seat (i.e., van type)  
 (10) Other seat type (specify):  
 (99) Unknown
51. Seat Orientation (this Occupant Position) 1  
 (0) Occupant not seated or no seat  
 (1) Forward facing seat  
 (2) Rear facing seat  
 (3) Side facing seat (inward)  
 (4) Side facing seat (outward)  
 (8) Other (specify):  
 (9) Unknown
52. Seat Track Adjusted Position Prior To Impact 4  
 (0) Occupant not seated or no seat  
 (1) Non-adjustable seat track  
*Adjustable Seat Track*  
 (2) Seat at forward most track position  
 (3) Seat between forward most and middle track positions  
 (4) Seat at middle track position  
 (5) Seat between middle and rear most track positions  
 (6) Seat at rear most track position  
 (9) Unknown

HEAD RESTRAINT AND SEAT EVALUATION *continued*53. Seat Back Incline Prior and Post Impact 14

- (00) Occupant not seated or no seat  
 (01) Not adjustable

*Upright prior to impact*

- (11) Moved to completely rearward position  
 (12) Moved to rearward midrange position  
 (13) Moved to slightly rearward position  
 (14) Retained pre-impact position  
 (15) Moved to slightly forward position  
 (16) Moved to forward midrange position  
 (17) Moved to completely forward position

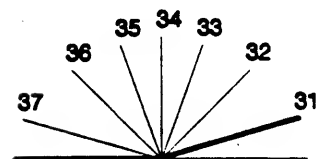
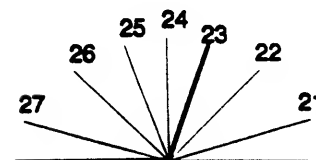
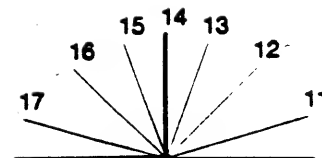
*Slightly reclined prior to impact*

- (21) Moved to completely rearward position  
 (22) Moved to rearward midrange position  
 (23) Retained pre-impact position  
 (24) Moved to upright position  
 (25) Moved to slightly forward position  
 (26) Moved to forward midrange position  
 (27) Moved to completely forward position

*Completely reclined prior to impact*

- (31) Retained pre-impact position  
 (32) Moved to rearward midrange position  
 (33) Moved to slightly rearward position  
 (34) Moved to upright position  
 (35) Moved to slightly forward position  
 (36) Moved to forward midrange position  
 (37) Moved to completely forward position

(99) Unknown

54. Seat Performance (this Occupant Position) 1

- (0) Occupant not seated or no seat  
 (1) No seat performance failure(s)  
 (2) Seat adjusters failed  
 (3) Seat back folding locks or "seat back" failed (specify): \_\_\_\_\_  
 (4) Seat track/anchors failed  
 (5) Deformed by impact of occupant  
 (6) Deformed by passenger compartment intrusion, (specify): \_\_\_\_\_  
 (7) Combination of above (specify): \_\_\_\_\_  
 (8) Other (specify): \_\_\_\_\_  
 (9) Unknown

## CHILD SAFETY SEAT

55. Child Safety Seat Make/Model 000  
(000) No child safety seat  
Applicable codes are found in your NASS CDS  
Data Collection, Coding and Editing  
(950) Built-in child safety seat  
(997) Other make/model (specify):  
\_\_\_\_\_  
(998) Unknown make/model  
(999) Unknown if child safety seat used

56. Type of Child Safety Seat 0  
(0) No child safety seat  
(1) Infant seat  
(2) Toddler seat  
(3) Convertible seat  
(4) Booster seat - with shield  
(5) Booster seat - without shield  
(7) Other type child safety seat (specify):  
\_\_\_\_\_  
(8) Unknown child safety seat type  
(9) Unknown if child safety seat used

57. Child Safety Seat Orientation 00  
(00) No child safety seat  
  
*Designed for Rear Facing for This Age/Weight*  
(01) Rear facing  
(02) Forward facing  
(08) Other orientation (specify):  
\_\_\_\_\_  
(09) Unknown orientation  
  
*Designed For Forward Facing for This Age/Weight*  
(11) Rear facing  
(12) Forward facing  
(18) Other orientation (specify):  
\_\_\_\_\_  
(19) Unknown orientation  
  
*Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight*  
(21) Rear facing  
(22) Forward facing  
(28) Other orientation (specify):  
\_\_\_\_\_  
(29) Unknown orientation  
  
(99) Unknown if child safety seat used

58. Child Safety Seat Harness Usage 00

59. Child Safety Seat Shield Usage 00

60. Child Safety Seat Tether Usage 00

Note: Options below applicable to  
Variables OA58-QA60.

(00) No child safety seat

*Not Designed With Harness/Shield/Tether*

- (01) After market harness/shield/tether added, not used  
(02) After market harness/shield/tether used  
(03) Child safety seat used, but no after market harness/shield/tether added  
(09) Unknown if harness/shield/tether added or used

*Designed With Harness/Shield/Tether*

- (11) Harness/shield/tether not used  
(12) Harness/shield/tether used  
(19) Unknown if harness/shield/tether used

*Unknown If Designed With Harness/Shield/Tether*

- (21) Harness/shield/tether not used  
(22) Harness/shield/tether used  
(29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

**INJURY CONSEQUENCES****61. Injury Severity (Police Rating)** 2

- (0) O - No injury
- (1) C - Possible injury
- (2) B - Nonincapacitating injury
- (3) A - Incapacitating injury
- (4) K - Killed
- (5) U - Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

**62. Treatment - Mortality** 4

- (0) No treatment
- (1) Fatal
- (2) Fatal - ruled disease (specify):  
\_\_\_\_\_

*Nonfatal*

- (3) Hospitalization
- (4) Transported and released
- (5) Treatment at scene - nontransported
- (6) Treatment later
- (7) Treatment - other (specify):  
\_\_\_\_\_
- (8) Transported to a medical facility-unknown if treated
- (9) Unknown

**63. Type Of Medical Facility (for Initial Treatment)** 1

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):  
\_\_\_\_\_

- (9) Unknown

**64. Hospital Stay** 00

- (00) Not Hospitalized  
\_\_\_\_\_ Code the number of days (up through 60)  
that the occupant stayed in hospital.
- (61) 61 days or more
- (99) Unknown

**65. Working Days Lost** 20

- \_\_\_\_\_ Code the number of days  
(up through 60) that the occupant  
lost from work due to the accident
- (00) No working days lost
- (61) 61 days or more
- (62) Fatally injured
- (97) Not working prior to accident
- (99) Unknown

**STOP WORK HERE****VARIABLES 66-74****TO BE CODED BY THE ZONE CENTER**

**TO BE CODED BY THE ZONE CENTER****INJURY CONSEQUENCES****66. Time to Death**

Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)

- (00) Not fatal  
(96) Fatal - ruled disease  
(99) Unknown

**67. 1st Medically Reported Cause of Death****68. 2nd Medically Reported Cause of Death****69. 3rd Medically Reported Cause of Death**

Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death

- (00) Not fatal or no additional causes  
(96) Mode of death given but specific injuries are not linked to cause of death. (specify):

(97) Other result (includes fatal ruled disease) (specify):

(99) Unknown

**70. Number of Recorded Injuries for This Occupant**

Code the actual number of injuries recorded for this occupant.

- (00) No recorded injuries  
(97) Injured, details unknown  
(99) Unknown if injured

**TRAUMA DATA****71. Glasgow Coma Scale (GCS) Score**

(at Medical Facility)

- (00) Not injured  
(01) Injured - not treated at medical facility  
(02) No GCS Score at medical facility  
(03-15) Code the actual value of the initial GCS Score recorded at medical facility.  
(97) Injured, details unknown  
(99) Unknown if injured

**72. Was the Occupant Given Blood?**

(1) No - blood not given

(2) Yes - blood given

(specify units):

(9) Unknown if blood given

**73. Arterial Blood Gases (ABG) - HCO<sub>3</sub>**

(00) Not injured

(01) Injured, ABGs not measured or reported

(02-50) Code the actual value of the HCO<sub>3</sub>

(96) ABGs reported, HCO<sub>3</sub> unknown

(97) Injured, details unknown

(99) Unknown if injured

**BELT USE DETERMINATION****74. Primary Source of Belt Use Determination**

(0) Not equipped/not available/destroyed or rendered inoperative

(1) Vehicle inspection

(2) Official injury data

(3) Driver/occupant interview

(8) Other (specify):

(9) Unknown if belt used



**Appendix I:**

**NASS CDS OCCUPANT INJURY FORM:**

**CASE VEHICLE DRIVER**



U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

# OCCUPANT INJURY FORM

Form Approved  
O.M.B. No. 2127-0021

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number

10  
9510

3. Vehicle Number

01

2. Case Number - Stratum

4. Occupant Number

01

## INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

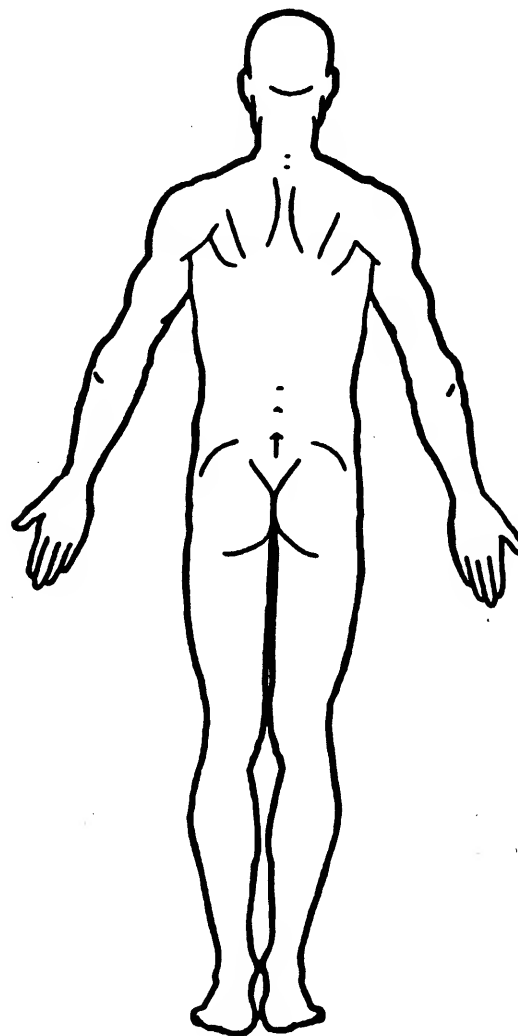
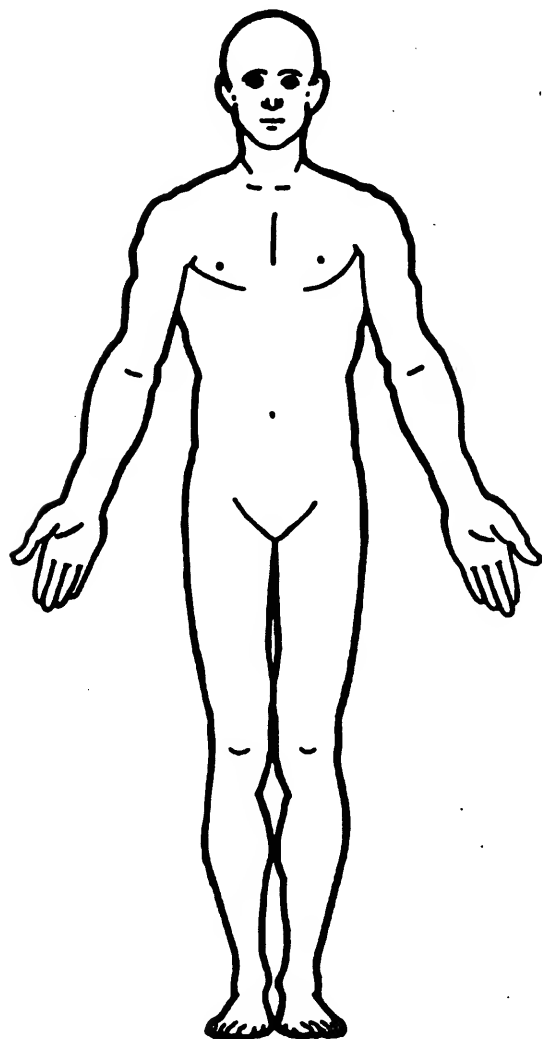
Source of Injury Data	A.I.S. - 90					Injury Source	Injury Source Confidence Level	Direct/Indirect Injury	Occupant Area Intrusion Number		
	Body Region	Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury	A.I.S. Severity					Aspect	
Injured 5th finger	5. <u>7</u>	6. <u>7</u>	7. <u>5</u>	8. <u>24</u>	9. <u>00</u>	10. <u>1</u>	11. <u>2</u>	12. <u>007</u>	13. <u>1</u>	14. <u>1</u>	15. <u>00</u>
Scrape 2nd toe	16. <u>7</u>	17. <u>8</u>	18. <u>5</u>	19. <u>02</u>	20. <u>06</u>	21. <u>1</u>	22. <u>1</u>	23. <u>254</u>	24. <u>2</u>	25. <u>1</u>	26. <u>00</u>
Claw contusions 3rd	27. <u>7</u>	28. <u>4</u>	29. <u>9</u>	30. <u>24</u>	31. <u>02</u>	32. <u>1</u>	33. <u>4</u>	34. <u>152</u>	35. <u>2</u>	36. <u>1</u>	37. <u>00</u>
Fracture 4th toe	38. <u>7</u>	39. <u>5</u>	40. <u>9</u>	41. <u>04</u>	42. <u>02</u>	43. <u>1</u>	44. <u>8</u>	45. <u>152</u>	46. <u>2</u>	47. <u>1</u>	48. <u>00</u>
Contusion 5th toe	49. <u>7</u>	50. <u>7</u>	51. <u>9</u>	52. <u>04</u>	53. <u>02</u>	54. <u>1</u>	55. <u>2</u>	56. <u>152</u>	57. <u>2</u>	58. <u>1</u>	59. <u>00</u>
Contusion 6th toe	60. <u>7</u>	61. <u>7</u>	62. <u>9</u>	63. <u>04</u>	64. <u>02</u>	65. <u>1</u>	66. <u>1</u>	67. <u>170</u>	68. <u>2</u>	69. <u>1</u>	70. <u>00</u>
Contusion 7th toe	71. <u>7</u>	72. <u>7</u>	73. <u>9</u>	74. <u>04</u>	75. <u>02</u>	76. <u>1</u>	77. <u>2</u>	78. <u>170</u>	79. <u>2</u>	80. <u>1</u>	81. <u>00</u>
Fracture 8th toe	82. <u>7</u>	83. <u>7</u>	84. <u>9</u>	85. <u>26</u>	86. <u>00</u>	87. <u>1</u>	88. <u>2</u>	89. <u>007</u>	90. <u>1</u>	91. <u>1</u>	92. <u>00</u>
Scrape knee	93. <u>7</u>	94. <u>8</u>	95. <u>9</u>	96. <u>02</u>	97. <u>02</u>	98. <u>1</u>	99. <u>1</u>	100. <u>011</u>	101. <u>2</u>	102. <u>1</u>	103. <u>00</u>
10th	104. <u>  </u>	105. <u>  </u>	106. <u>  </u>	107. <u>  </u>	108. <u>  </u>	109. <u>  </u>	110. <u>  </u>	111. <u>  </u>	112. <u>  </u>	113. <u>  </u>	114. <u>  </u>

### OCCUPANT INJURY DATA

[illegible]

## OFFICIAL INJURY DATA — SOFT TISSUE INJURIES

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)



## OCCUPANT INJURY CLASSIFICATION

Body Region	Specific Anatomic Structure	Level of Injury	Aspect
(1) Head		Specific injuries are assigned consecutive two-digit numbers beginning with 02.	(1) Right
(2) Face			(2) Left
(3) Neck	<u>Vessels, Nerves, Organs.</u>	To the extent possible, within the organizational framework of the AIS, 00 is assigned to an injury NFS as to severity or where only one injury is given in the dictionary for that anatomic structure. 99 is assigned to any injury NFS as to lesion or severity.	(3) Bilateral
(4) Thorax	<u>Bones, Joints</u> are assigned consecutive two digit numbers beginning with 02.		(4) Central
(5) Abdomen		The exceptions to this rule apply to:	(5) Anterior
(6) Spine			(6) Posterior
(7) Upper Extremity			(7) Superior
(8) Lower Extremity			(8) Inferior
(9) Unspecified			(9) Unknown
			(0) Whole region
Type of Anatomic Structure	Whole Area	Abbreviated Injury Scale	
(1) Whole Area	(02) Skin - Abrasion	(1) Minor Injury	
(2) Vessels	(04) Skin - Contusion	(2) Moderate Injury	
(3) Nerves	(06) Skin - Laceration	(3) Serious Injury	
(4) Organs (includes Muscles/ligaments)	(08) Skin - Avulsion	(4) Severe Injury	
(5) Skeletal (includes joints)	(10) Amputation	(5) Critical Injury	
(6) Head - LOC	(20) Burn	(6) Maximum (untreatable)	
(9) Skin	(30) Crush	(7) Injured, unknown severity	
	(40) Degloving		
	(50) Injury - NFS		
	(90) Trauma, other than mechanical		
	<u>Head - LOC</u>		
	(02) Length of LOC		
	(04) Level		
	(06) of		
	(08) Consciousness		
	(10) Concussion		
	<u>Spine</u>		
	(02) Cervical		
	(04) Thoracic		
	(06) Lumbar		

## SOURCE OF INJURY DATA

## INJURY SOURCE

## DIRECT/INDIRECT INJURY

## CONFIDENCE LEVEL

OFFICIAL RECORDS

- (1) Autopsy records with or without hospital/medical records
- (2) Hospital/medical records other than emergency room (e.g., discharge summary)
- (3) Emergency room records only (including associated X-rays or other lab reports)
- (4) Private physician, walk-in or emergency clinic

UNOFFICIAL RECORDS

- (5) Lay coroner report
- (6) E.M.S. personnel
- (7) Interviewee
- (8) Other source (specify): \_\_\_\_\_
- (9) Police

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

- (1) Direct contact injury
- (2) Indirect contact injury
- (3) Noncontact injury
- (7) Injured, unknown source

## OFFICIAL INJURY DATA — SKELETAL INJURIES

Restrained?

☐ No☐ YesBlood Alcohol  
Level (mg/dl)

BAL = \_\_\_\_

Glasgow Coma  
Scale Score

GCSS = \_\_\_\_

Units of Blood  
Given

Units = \_\_\_\_

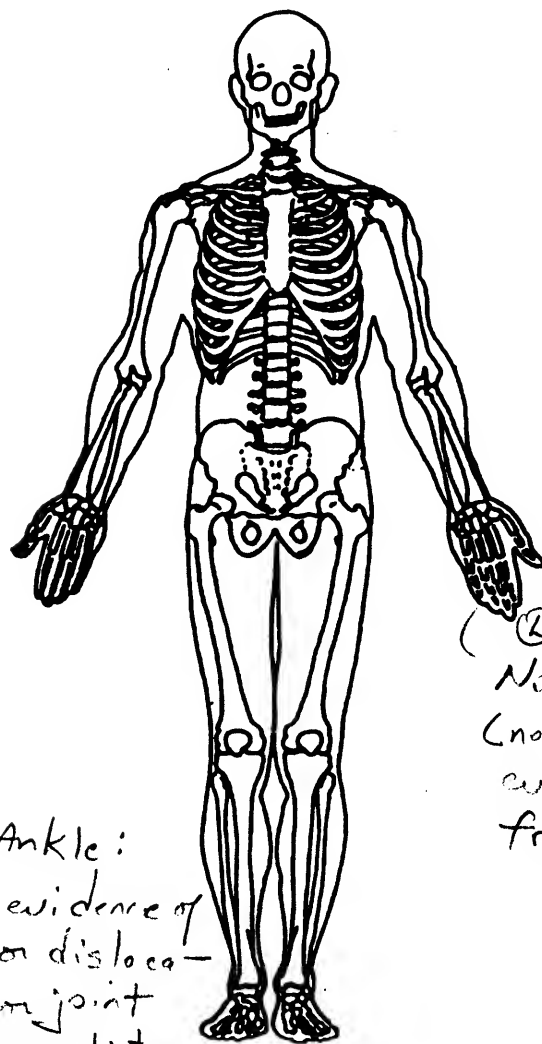
Arterial Blood  
Gases

pH = \_\_\_\_

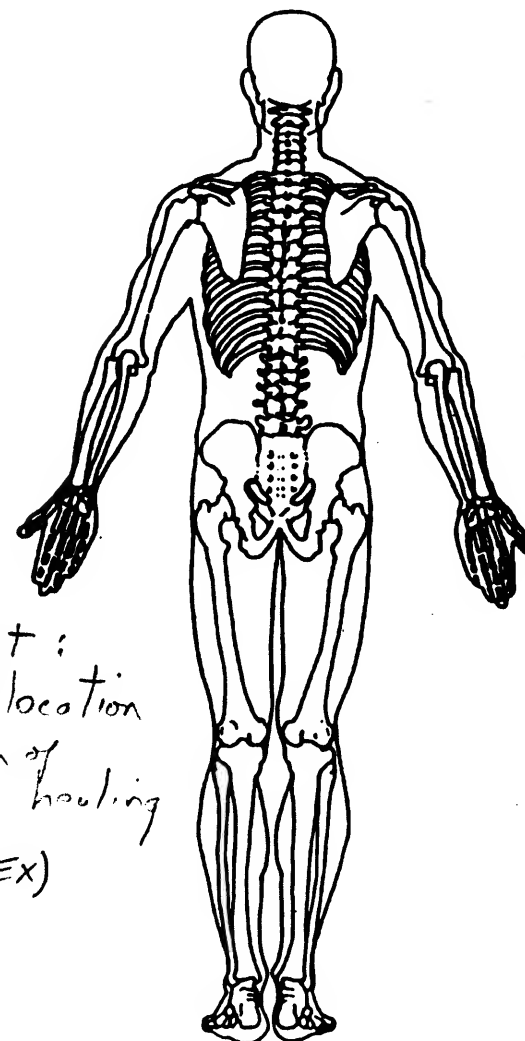
PO<sub>2</sub> = \_\_\_\_PCO<sub>2</sub> = \_\_\_\_HCO<sub>3</sub> = \_\_\_\_

45 days post-crash

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)



② Ankle:  
No evidence of  
Fx or dislocation or joint  
abnormality (EX)



② 5th digit:  
No Fx or dislocation  
(nor indication of  
evidence of a healing  
fracture) (EX)

## INJURY SOURCES

## FRONT

- (001) Windshield
- (002) Mirror
- (003) Sunvisor
- (004) Steering wheel rim
- (005) Steering wheel hub/spoke
- (006) Steering wheel (combination of codes 004 and 005)
- (007) Steering column, transmission selector lever, other attachment
- (008) Cellular telephone or CB radio
- (009) Add on equipment (e.g., tape deck, air conditioner)
- (010) Left instrument panel and below
- (011) Center instrument panel and below
- (012) Right instrument panel and below
- (013) Glove compartment door
- (014) Knee bolster
- (015) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (016) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
- (017) Windshield reinforced by exterior object (specify):
- (019) Other front object (specify):

## LEFT SIDE

- (051) Left side interior surface, excluding hardware or armrests
- (052) Left side hardware or armrest
- (053) Left A (A1/A2)-pillar
- (054) Left B-pillar
- (055) Other left pillar (specify):
- (056) Left side window glass
- (057) Left side window frame
- (058) Left side window sill
- (059) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (060) Other left side object (specify):

## RIGHT SIDE

- (101) Right side interior surface, excluding hardware or armrests

- (102) Right side hardware or armrest
- (103) Right A (A1/A2)-pillar
- (104) Right B-pillar
- (105) Other right pillar (specify):
- (106) Right side window glass
- (107) Right side window frame
- (108) Right side window sill
- (109) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (110) Other right side object (specify):

## INTERIOR

- (151) Seat, back support
- (152) Belt restraint webbing/buckle
- (153) Belt restraint B-pillar or door frame attachment point
- (154) Other restraint system component (specify):
- (155) Head restraint system
- (160) Other occupants (specify):
- (161) Interior loose objects
- (162) Child safety seat (specify):
- (163) Other interior object (specify):

## AIR BAG

- (170) Air bag-driver side
- (171) Air bag-driver side and eyewear
- (172) Air bag-driver side and jewelry
- (173) Air bag-driver side and object held
- (174) Air bag-driver side and object in mouth
- (175) Air bag compartment cover-driver side
- (176) Air bag compartment cover-driver side and eyewear
- (177) Air bag compartment cover-driver side and jewelry
- (178) Air bag compartment cover-driver side and object held
- (179) Air bag compartment cover-driver side and object in mouth
- (180) Air bag-passenger side
- (181) Air bag-passenger side and eyewear
- (182) Air bag-passenger side and jewelry

- (183) Air bag-passenger side and object held
- (184) Air bag-passenger side and object in mouth
- (185) Air bag compartment cover-passenger side
- (186) Air bag compartment cover-passenger side and eyewear
- (187) Air bag compartment cover-passenger side and jewelry
- (188) Air bag compartment cover-passenger side and object held
- (189) Air bag compartment cover-passenger side and object in mouth
- (190) Other air bag (specify):
- (195) Other air bag compartment cover (specify):

## ROOF

- (201) Front header
- (202) Rear header
- (203) Roof left side rail
- (204) Roof right side rail
- (205) Roof or convertible top

## FLOOR

- (251) Floor (including toe pan)
- (252) Floor or console mounted transmission lever, including console
- (253) Parking brake handle
- (254) Foot controls including parking brake

## REAR

- (301) Backlight (rear window)
- (302) Backlight storage rack, door, etc.
- (303) Other rear object (specify):

## ADAPTIVE (ASSISTIVE) DRIVING EQUIPMENT

- (401) Hand controls for braking/acceleration
- (402) Steering control devices (attached to OEM steering wheel)
- (403) Steering knob attached to steering wheel
- (405) Replacement steering wheel (i.e., reduced diameter)
- (406) Joy stick steering controls
- (407) Wheelchair tie-downs
- (408) Modification to seat belts, (specify):
- (409) Additional or relocated switches, (specify):

- (410) Raised roof

- (411) Wall mounted head rest (used behind wheel chair)
- (412) Other adaptive device (specify):

## EXTERIOR OF OCCUPANT'S VEHICLE

- (451) Hood
- (452) Outside hardware (e.g., outside mirror, antenna)
- (453) Other exterior surface or tires (specify):
- (454) Unknown exterior objects

## EXTERIOR OF OTHER MOTOR VEHICLE

- (501) Front bumper
- (502) Hood edge
- (503) Other front of vehicle (specify):
- (504) Hood
- (505) Hood ornament
- (506) Windshield, roof rail, A-pillar
- (507) Side surface
- (508) Side mirrors
- (509) Other side protrusions (specify):
- (510) Rear surface
- (511) Undercarriage
- (512) Tires and wheels
- (513) Other exterior of other motor vehicle (specify):
- (514) Unknown exterior of other motor vehicle

## OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT

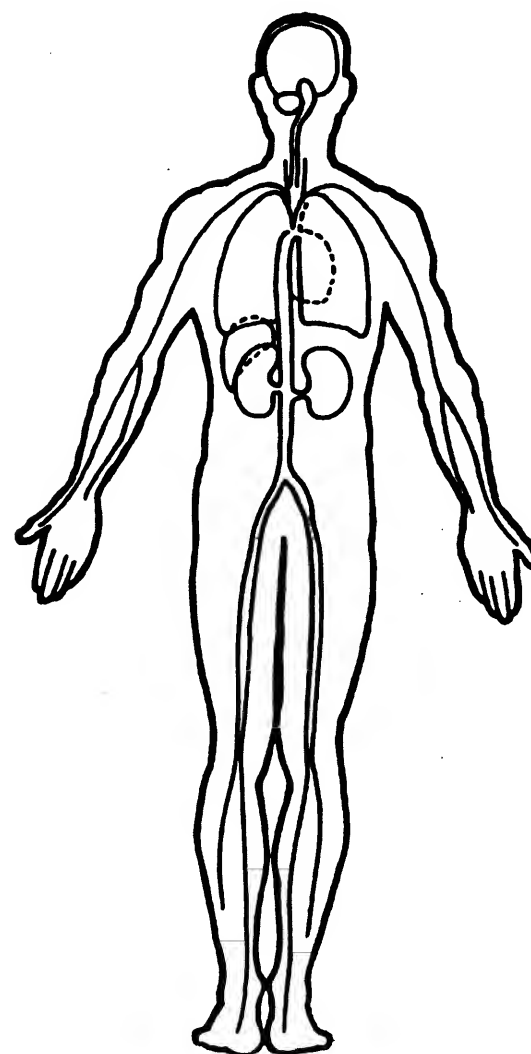
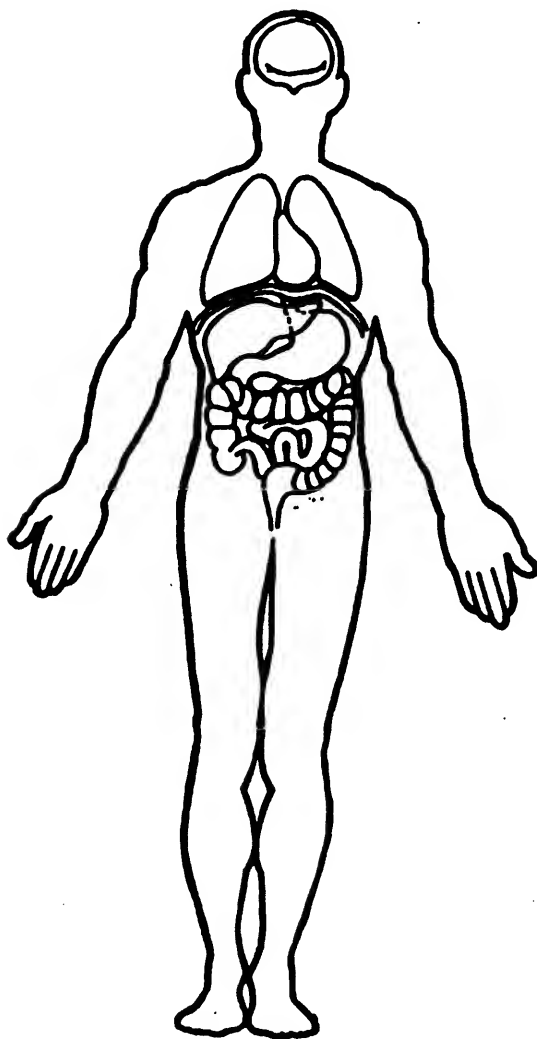
- (551) Ground
- (598) Other vehicle or object (specify):
- (599) Unknown vehicle or object

## NONCONTACT INJURY

- (601) Fire in vehicle
- (602) Flying glass
- (603) Other noncontact injury source (specify):
- (604) Air bag exhaust gases
- (697) Injured, unknown source

## OFFICIAL INJURY DATA — INTERNAL INJURIES

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)





## CAUSE OF DEATH

## ICD-9-CM

### OTHER DRUGS (GV16)

Specimen Test Type	Drug(s)	Drug Type
<input type="checkbox"/> Blood and urine tests <input type="checkbox"/> Blood test only <input type="checkbox"/> Urine test only <input type="checkbox"/> Other test <input type="checkbox"/> Unspecified		

### MEDICAL RECORD ABBREVIATIONS

Symbol	Record Type Description
A	Autopsy—medical information based upon an invasive examination of a body
ME	Medical examiner's record—where the information reported on the patient is based on a non-invasive examination of the body
AR	Admission record/summary—any medical information on this record should be considered as post-ER since it summarizes the patient's admission; these records are common in short hospitalizations and usually only contain: admission DX(s), final DX(s), and a listing of surgical treatments; ICD-9-CM codes are frequently available.
FS	Admission/discharge face sheet—face sheets are essentially the same as admission record/summaries and contain the same types of information as discussed above
DS	Discharge summary—shorten history of a patient's hospitalization highlighting the patient's major injuries; this record is often written from the perspective of its author which in many cases is a consultant
OS	Operative record—summary of a performed surgical operation often providing detailed information about a specific trauma; patients who survive the surgery are normally admitted; thus, this record is normally considered post-ER; however, if this record results from an outpatient surgery, then treat it as emergency-room related
FX	Radiographic records—taken after the patient has been admitted, or while in surgery or intensive care
FN	Patient progress notes—supplemental record containing additional nurses notes taken after the patient's admission
HP	History and physical exam—medical history and the results of the physical exam obtained by the emergency room physician assigned to the patient upon arrival at the emergency room
CN	Consultation record—consultations are in essence additional history and physical exams performed by doctors whose expertise was requested by the emergency room physician; the consultation may occur during the emergency room visit or after admission
ER	Emergency room report—where the author of this information is undefined
EN	Emergency room nurse—"nurse/complaint of" section on the emergency room report
ED	Emergency room doctor—"objective/physical exam" section plus "diagnosis and treatment" sections (i.e., doctor portion of emergency room report)
NN	Nurse notes—supplemental record containing additional notes taken by the emergency room nurse(s)
EX	Radiographic records—taken during the patients stay in the emergency room
CV	Coroner's verdict—statement of cause of death for legal specific regarding injuries; care must be exercised to ascertain the credentials of the verdict's author.
CR	Coroner's report—medical information based upon a noninvasive examination performed by a person who is not a doctor but who has the title of a coroner
ET	Emergency medical technician—report by a person who qualifies as an emergency medical services technician (EMS or EMT)
O	Other source—medical information based on an other source (e.g., newspaper, DVM—Doctor of Veterinary Medicine)

NAME: \_\_\_\_\_ AGE: 43 SEX: M F

HX: Rule out fx

5th digit  
for 5th digit (C) No. Films: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6

		FILE #:	DATE:
<input type="checkbox"/> 73000	Ankle 2v	<input type="checkbox"/> 73020	Foot 2v
<input type="checkbox"/> 73010	Ankle 3v	<input type="checkbox"/> 73030	Foot 3v
<input type="checkbox"/> 74000	Abdomen AP	<input type="checkbox"/> 73040	Forearm 2v
<input type="checkbox"/> 74020	Abdomen AP Exam	<input type="checkbox"/> 73100	Hand 3v
<input type="checkbox"/> 72052	C-Spine 5v	<input type="checkbox"/> 73510	Hand 2v
<input type="checkbox"/> 72050	C-Spine 4v	<input type="checkbox"/> 73510	Hip 2v
<input type="checkbox"/> 71020	Chest 2v	<input type="checkbox"/> 73080	Humerus 2v
<input type="checkbox"/> 73000	Cervical 2v	<input type="checkbox"/> 73380	Knee 2v
<input type="checkbox"/> 73080	Elbow 3v	<input type="checkbox"/> 73382	Knee 3v
<input type="checkbox"/> 70180	Facial Bones 3v	<input type="checkbox"/> 72110	L/S Spine 5v
<input type="checkbox"/> 73140	Finger(s) 2v	<input type="checkbox"/> 72100	L/S Spine 2v
		<input type="checkbox"/> 70180	Nasal 3v
		<input type="checkbox"/> 70380	Neck soft tissue
		<input type="checkbox"/> 71110	Rib-Bilateral 2v
		<input type="checkbox"/> 72220	Sacrum Coccyx
		<input type="checkbox"/> 73000	Shoulder 2v
		<input type="checkbox"/> 70210	Skull 3v
		<input type="checkbox"/> 70220	Skull Complete
		<input type="checkbox"/> 70230	Skull 4v
		<input type="checkbox"/> 72070	Thoracic Spine 2v
		<input type="checkbox"/> 72874	Thoracic Spine 4v
		<input type="checkbox"/> 73580	Tibia Fibula
		<input type="checkbox"/> 70230	TMJ
		<input type="checkbox"/> 73060	Torso
		<input type="checkbox"/> 73110	Wrist 3v
		<input type="checkbox"/> 73180	Wrist 2v

**95 LEFT HAND IN VARIOUS PROJECTIONS:**

Showed no acute fracture or dislocation; however, if the patient continues to be symptomatic, follow-up x-ray may be obtained to rule out any trabecular fracture. The thumb is not completely included in the x-ray.

**95 RIGHT FOOT IN VARIOUS PROJECTIONS:**

There is no evidence of any fracture, dislocation, or any bone or joint abnormality.

CONCLUSION: WITHIN NORMAL LIMITS.

, M.D.  
dd/dt: \_\_\_\_\_

**Appendix J:**

**NASS CDS OCCUPANT ASSESSMENT FORM:**

**CASE VEHICLE RIGHT FRONT PASSENGER**



## OCCUPANT ASSESSMENT FORM

1. Primary Sampling Unit Number

2. Case Number - Stratum

3. Vehicle Number

4. Occupant Number

### OCCUPANT'S CHARACTERISTICS

5. Occupant's Age

Code actual age at time of accident.

(00) Less than one year old (specify by month):

(97) 97 years and older

(99) Unknown

6. Occupant's Sex

(1) Male

(2) Female-not reported pregnant

(3) Female-pregnant-1st trimester(1st-3rd month)

(4) Female-pregnant-2nd trimester(4th-6th month)

(5) Female-pregnant-3rd trimester(7th-9th month)

(6) Female-pregnant-term unknown

(9) Unknown

7. Occupant's Height

Code actual height to the nearest centimeter.

(999) Unknown

64 inches X 2.54 = 162.56 centimeters

8. Occupant's Weight

Code actual weight to the nearest kilogram.

(999) Unknown

180 pounds X .4536 = 81.64 kilograms

9. Occupant's Role

(1) Driver

(2) Passenger

(9) Unknown

### OCCUPANT'S SEATING

10. Occupant's Seat Position

Front Seat

(11) Left side

(12) Middle

(13) Right side

(14) Other (specify):

(15) On or in the lap of another occupant

Second Seat

(21) Left side

(22) Middle

(23) Right side

(24) Other (specify):

(25) On or in the lap of another occupant

Third Seat

(31) Left side

(32) Middle

(33) Right side

(34) Other (specify):

(35) On or in the lap of another occupant

Fourth Seat

(41) Left side

(42) Middle

(43) Right side

(44) Other (specify):

(45) On or in the lap of another occupant

(97) In or on unenclosed area

(98) Other seat (specify):

(99) Unknown

11. Occupant's Posture

(0) Normal posture

Abnormal posture

(1) Kneeling or standing on seat

(2) Lying on or across seat

(3) Kneeling, standing or sitting in front of seat

(4) Sitting sideways or turned to talk with another occupant or to look out a rear window

(5) Sitting on a console

(6) Lying back in a reclined seat position

(7) Bracing with feet or hands on a surface in front of seat

(8) Other abnormal posture (specify):

(9) Unknown

## EJECTION/ENTRAPMENT

12. Ejection 0

- (0) No ejection
- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, unknown degree
- (9) Unknown

13. Ejection Area 0

- (0) No ejection
- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear
- (7) Roof
- (8) Other area (e.g., back of pickup, etc.)  
(specify): \_\_\_\_\_
- (9) Unknown

14. Ejection Medium 0

- (0) No ejection
- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify): \_\_\_\_\_
- (5) Integral structure
- (8) Other medium (specify): \_\_\_\_\_
- (9) Unknown

15. Medium Status (Immediately Prior To Impact) 0

- (0) No ejection
- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

16. Entrapment 0

- (0) Not entrapped/exit not inhibited
- (1) Entrapped/pinned - mechanically restrained
- (2) Could not exit vehicle due to jammed doors, fire, etc.  
(specify): \_\_\_\_\_
- (9) Unknown

17. Occupant Mobility 2

- (0) Occupant fatal before removed from vehicle
- (1) Removed from vehicle while unconscious or disoriented
- (2) Removed from vehicle due to injuries
- (3) Exited vehicle with some assistance
- (4) Exited vehicle under own power
- (5) Occupant fully ejected
- (9) Unknown

## BELT SYSTEM FUNCTION

18. Manual (Active) Belt System Availability 4

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available—type unknown

*Integral Belt Partially Destroyed*

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)
- (8) Other belt (specify):

(9) Unknown

19. Manual (Active) Belt System Use 04

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify):

- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used—type unknown
- (08) Other belt used (specify):

- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat—type unknown
- (18) Other belt used with child safety seat (specify):
- (99) Unknown if belt used

20. Proper Use of Manual (Active) Belts 1

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

*Belt Used Improperly*

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify):

- (8) Other improper use of manual belt system (specify):

(9) Unknown

21. Manual (Active) Belt Failure Modes During Accident 1

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):

- (6) Broken retractor
- (7) Combination of above (specify):

- (8) Other manual belt failure (specify):

(9) Unknown

22. Shoulder Belt Upper Anchorage Adjustment 1

- (0) No shoulder belt
- (1) No upper anchorage adjustment for shoulder belt

*Adjustable Shoulder Belt Upper Anchorage*

- (2) In full up position
- (3) In mid position
- (4) In full down position
- (5) Position unknown
- (9) Unknown if position has adjustable upper anchorage adjustment

23. Automatic (Passive) Belt System Availability/Function 0

- (0) Not equipped/not available
- (1) 2 point automatic belts
- (2) 3 point automatic belts
- (3) Automatic belts - type unknown

*Non-functional*

- (4) Automatic belts destroyed or rendered inoperative
- (9) Unknown

24. Automatic (Passive) Belt System Use 0

- (0) Not equipped/not available/destroyed or rendered inoperative
- (1) Automatic belt in use
- (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify):
- (3) Automatic belt use unknown
- (9) Unknown

25. Automatic (Passive) Belt System Type 0

- (0) Not equipped/not available
- (1) Non-motorized system
- (2) Motorized system
- (9) Unknown

26. Proper Use of Automatic (Passive) Belt System 6

- (0) Not equipped/not available/not used
- (1) Automatic belt used properly
- (2) Automatic belt used properly with child safety seat

*Automatic Belt Used Improperly*

- (3) Automatic shoulder belt worn under arm
- (4) Automatic shoulder belt worn behind back
- (5) Automatic belt worn around more than one person
- (6) Lap portion of automatic belt worn on abdomen
- (7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify):

- (8) Other improper use of automatic belt system (specify):

(9) Unknown

27. Automatic (Passive) Belt Failure Modes During Accident 0

- (0) Not equipped/not available/not in use
- (1) No automatic belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):

- (6) Broken retractor
- (7) Combination of above (specify):
- (8) Other automatic belt failure (specify):

(9) Unknown

## POLICE REPORTED RESTRAINT USE

28. Police Reported Belt Use 4

- (0) None used  
 (1) Police did not indicate belt use  
 (2) Shoulder belt  
 (3) Lap belt  
 (4) Lap and shoulder belt  
 (5) Belt used, type not specified  
 (6) Child safety seat  
 (7) Automatic belt  
 (8) Other type belt, (specify):  
 \_\_\_\_\_  
 (9) Police indicated "unknown"

29. Police Reported Air Bag Availability/Function 2

- (0) No air bag available  
 (1) Police did not indicate air bag availability/function  
 (2) Deployed  
 (3) Not deployed  
 (4) Unknown if deployed  
 (9) Police indicated "unknown"

Check the Primary Source Used In Determining Belt Use.

- ☐ Not equipped/not available/destroyed or rendered inoperative  
☒ Vehicle inspection  
☐ Official injury data  
☐ Driver/occupant interview  
☐ Other (specify):  
 \_\_\_\_\_  
☐ Unknown if belt used  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## AIR BAG SYSTEM FUNCTION

30. Frontal Air Bag System Availability/Function (This Occupant Position) 1

- (0) Not equipped/not available  
 (1) Air bag

*Non-functional*

- (2) Air bag disconnected (specify):  
 \_\_\_\_\_  
 (3) Air bag not reinstalled  
 (9) Unknown

31. Frontal Air Bag System Deployment (This Occupant Position) 1

- (0) Not equipped/not available  
 (1) Deployed during accident (as a result of impact)  
 (2) Deployed inadvertently just prior to accident  
 (3) Deployed, details unknown  
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)  
 (5) Unknown if deployed  
 (7) Nondeployed  
 (9) Unknown

32. Other Than First Seat Frontal Air Bag Availability/Function (This Occupant Position) 0

- (0) Not equipped/not available  
 (1) Air bag

*Non-functional*

- (2) Air bag disconnected (specify):  
 \_\_\_\_\_  
 (3) Air bag not reinstalled  
 (9) Unknown

Specify type of "other" air bag present:  
 \_\_\_\_\_

33. Air Bag(s) Deployment, Other Than First Seat Frontal (This Occupant Position) 0

- (0) Not equipped with an "other" air bag  
 (1) Deployed during accident (as a result of impact)  
 (2) Deployed inadvertently just prior to accident  
 (3) Deployed, details unknown  
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)  
 (5) Unknown if deployed  
 (7) Nondeployed  
 (9) Unknown

34. Are There Indications of Air Bag System Failure? (This Occupant Position) 1

- (0) Not equipped/not available  
 (1) No  
 (2) Yes (specify):  
 \_\_\_\_\_  
 (9) Unknown

## FIRST SEAT FRONTAL AIR BAG SYSTEM EVALUATION

35. Had Vehicle Been in Previous Accident(s)? 1

- (0) Not equipped/not available  
(1) No previous accidents

Yes

- (2) Previous accident(s) without deployment(s)  
(3) One previous accident with deployment  
(4) More than one previous accident with at least one deployment  
(8) Previous accidents, unknown deployment status  
(9) Unknown

36. Type of Air Bag 1

- (0) Not equipped/not available  
(1) Original manufacturer installed system  
(2) Retrofitted air bag  
(3) Replacement air bag  
(8) Unknown type of air bag  
(9) Unknown

37. Had Any Prior Maintenance/Service Been Performed On This Air Bag System? 1

- (0) Not equipped/not available  
(1) No prior maintenance  
(2) Yes, prior maintenance (specify):

(9) Unknown

38. Air Bag Deployment Accident Event Sequence Number 01

- (00) Not equipped/not available  
01 Code the accident event sequence number that initiated the air bag deployment

- (96) Deployed, unknown event  
(97) Not deployed  
(98) Unknown if deployed  
(99) Unknown

39. CDC For Air Bag Deployment Impact 1

- (0) Not equipped/not available  
(1) Highest delta V  
(2) Second highest delta V  
(3) Other non-coded delta V (specify):

- (6) Deployed, unknown event  
(7) Not deployed  
(8) Unknown if deployed  
(9) Unknown

40. Longitudinal Component of + 036

Delta V For Air Bag Deployment Impact

(\_000) Not equipped/not available

Code the value of the delta V for the impact that initiated the air bag deployment

(\_996) Deployment, unknown longitudinal Delta V

(\_997) Not deployed

(\_998) Unknown if deployed

(\_999) Unknown

41. Did Air Bag Module Cover Flap(s) Open At Designated Tear Points? 2

(0) Not equipped/not available

(1) No

(2) Yes

(3) Deployed, unknown if flap(s) opened at designated tear points

(7) Not deployed

(8) Unknown if deployed

(9) Unknown

42. Were Air Bag Module Cover Flap(s) Damaged? 2

(0) Not equipped/not available

(1) No

(2) Yes (specify): cut from W.S. GLASS

(3) Deployed, unknown if air bag module cover flap(s) damaged

(7) Not deployed

(8) Unknown if deployed

(9) Unknown

43. Was There Damage To The Air Bag? 01

(00) Not equipped/not available

(01) Not damaged

Yes - Air Bag Damage

(02) Ruptured

(03) Cut

(04) Torn

(05) Holed

(06) Burned

(07) Abraded

(88) Other damage (specify):

(95) Damaged, details unknown

(96) Deployed, unknown if damaged

(97) Not deployed

(98) Unknown if deployed

(99) Unknown



FIRST SEAT FRONTAL AIR BAG SYSTEM  
EVALUATION *continued*44. Source of Air Bag Damage 01

(00) Not equipped/not available

(01) Not damaged

(02) Object worn by occupant, (specify):

(03) Object carried by occupant, (specify):

(04) Adaptive/assistive controls, (specify):

(05) Fire in vehicle

(06) Thermal burns

(07) Rescue or emergency efforts

(88) Other damage source (specify):

(95) Damaged, unknown source

(96) Deployed, unknown if damaged

(97) Not deployed

(98) Unknown if deployed

(99) Unknown

45. Was The Air Bag Tethered? 2

(0) Not equipped/not available

(1) No

(2) Yes (specify number of tether straps):

(3) Deployed, unknown if tethered

(7) Not deployed

(8) Unknown if deployed

(9) Unknown

46. Did The Air Bag Have Vent Ports? 2

(0) Not equipped/not available

(1) No

(2) Yes (specify number of vent ports):

(3) Deployed, unknown if vent ports present

(7) Not deployed

(8) Unknown if deployed

(9) Unknown

47. Was the Air Bag in this Occupant's Position  
Contacted by Another Occupant? 1

(0) Not equipped/not available

(1) No

(2) Yes (specify):

(3) Deployed, unknown if other occupant contact  
to air bag

(7) Not deployed

(8) Unknown if deployed

(9) Unknown

48. Was This Occupant Wearing Eye-wear? 1

(0) Not equipped/not available

(1) No

(2) Eyeglasses/sunglasses

(3) Contact lenses

(4) Deployed, unknown if eyewear worn

(7) Not deployed

(8) Unknown if deployed

(9) Unknown

## HEAD RESTRAINT AND SEAT EVALUATION

49. Head Restraint Type/Damage by Occupant  
at This Occupant Position 3

(0) No head restraints

(1) Integral—no damage

(2) Integral—damaged during accident

(3) Adjustable—no damage

(4) Adjustable—damaged during accident

(5) Add-on—no damage

(6) Add-on—damaged during accident

(8) Other (specify):

(9) Unknown

50. Seat Type (this Occupant Position) 02

(00) Occupant not seated or no seat

(01) Bucket

(02) Bucket with folding back

(03) Bench

(04) Bench with separate back cushions

(05) Bench with folding back(s)

(06) Split bench with separate back cushions

(07) Split bench with folding back(s)

(08) Pedestal (i.e., column supported)

(09) Box mounted seat (i.e., van type)

(10) Other seat type (specify):

(99) Unknown

51. Seat Orientation (this Occupant Position) 1

(0) Occupant not seated or no seat

(1) Forward facing seat

(2) Rear facing seat

(3) Side facing seat (inward)

(4) Side facing seat (outward)

(8) Other (specify):

(9) Unknown

52. Seat Track Adjusted Position Prior To Impact 3

(0) Occupant not seated or no seat

(1) Non-adjustable seat track

*Adjustable Seat Track*

(2) Seat at forward most track position

(3) Seat between forward most and middle track  
positions

(4) Seat at middle track position

(5) Seat between middle and rear most track  
positions

(6) Seat at rear most track position

(9) Unknown

HEAD RESTRAINT AND SEAT EVALUATION *continued*53. Seat Back Incline Prior and Post Impact 14

- (00) Occupant not seated or no seat  
 (01) Not adjustable

*Upright prior to impact*

- (11) Moved to completely rearward position  
 (12) Moved to rearward midrange position  
 (13) Moved to slightly rearward position  
 (14) Retained pre-impact position  
 (15) Moved to slightly forward position  
 (16) Moved to forward midrange position  
 (17) Moved to completely forward position

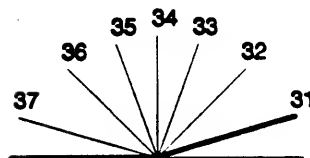
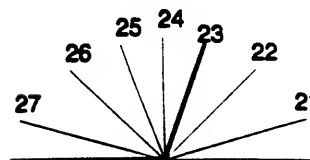
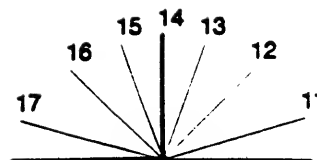
*Slightly reclined prior to impact*

- (21) Moved to completely rearward position  
 (22) Moved to rearward midrange position  
 (23) Retained pre-impact position  
 (24) Moved to upright position  
 (25) Moved to slightly forward position  
 (26) Moved to forward midrange position  
 (27) Moved to completely forward position

*Completely reclined prior to impact*

- (31) Retained pre-impact position  
 (32) Moved to rearward midrange position  
 (33) Moved to slightly rearward position  
 (34) Moved to upright position  
 (35) Moved to slightly forward position  
 (36) Moved to forward midrange position  
 (37) Moved to completely forward position

(99) Unknown

54. Seat Performance (this Occupant Position) 1

- (0) Occupant not seated or no seat  
 (1) No seat performance failure(s)  
 (2) Seat adjusters failed  
 (3) Seat back folding locks or "seat back" failed (specify): \_\_\_\_\_  
 (4) Seat track/anchors failed  
 (5) Deformed by impact of occupant  
 (6) Deformed by passenger compartment intrusion, (specify): \_\_\_\_\_  
 (7) Combination of above (specify): \_\_\_\_\_  
 (8) Other (specify): \_\_\_\_\_  
 (9) Unknown

## CHILD SAFETY SEAT

55. Child Safety Seat Make/Model 0 0 0  
(000) No child safety seat  
Applicable codes are found in your NASS CDS  
Data Collection, Coding and Editing  
(950) Built-in child safety seat  
(997) Other make/model (specify):  
  
(998) Unknown make/model  
(999) Unknown if child safety seat used

56. Type of Child Safety Seat 0  
(0) No child safety seat  
(1) Infant seat  
(2) Toddler seat  
(3) Convertible seat  
(4) Booster seat - with shield  
(5) Booster seat - without shield  
(7) Other type child safety seat (specify):  
  
(8) Unknown child safety seat type  
(9) Unknown if child safety seat used

57. Child Safety Seat Orientation 0 0  
(00) No child safety seat  
  
*Designed for Rear Facing for This Age/Weight*  
(01) Rear facing  
(02) Forward facing  
(08) Other orientation (specify):  
  
(09) Unknown orientation

*Designed For Forward Facing for This Age/Weight*  
(11) Rear facing  
(12) Forward facing  
(18) Other orientation (specify):  
  
(19) Unknown orientation

*Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight*  
(21) Rear facing  
(22) Forward facing  
(28) Other orientation (specify):  
  
(29) Unknown orientation  
  
(99) Unknown if child safety seat used

58. Child Safety Seat Harness Usage 0 0

59. Child Safety Seat Shield Usage 0 0

60. Child Safety Seat Tether Usage 0 0

Note: Options below applicable to  
Variables OA58-OA60.

(00) No child safety seat

*Not Designed With Harness/Shield/Tether*

(01) After market harness/shield/tether  
added, not used

(02) After market harness/shield/tether used

(03) Child safety seat used, but no after market  
harness/shield/tether added

(09) Unknown if harness/shield/tether  
added or used

*Designed With Harness/Shield/Tether*

(11) Harness/shield/tether not used

(12) Harness/shield/tether used

(19) Unknown if harness/shield/tether used

*Unknown If Designed With Harness/Shield/Tether*

(21) Harness/shield/tether not used

(22) Harness/shield/tether used

(29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

**INJURY CONSEQUENCES****61. Injury Severity (Police Rating)**3

- (0) O - No injury
- (1) C - Possible injury
- (2) B - Nonincapacitating injury
- (3) A - Incapacitating injury
- (4) K - Killed
- (5) U - Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

**62. Treatment - Mortality**3

- (0) No treatment
- (1) Fatal
- (2) Fatal - ruled disease (specify):  
\_\_\_\_\_

*Nonfatal*

- (3) Hospitalization
- (4) Transported and released
- (5) Treatment at scene - nontransported
- (6) Treatment later
- (7) Treatment - other (specify):  
\_\_\_\_\_
- (8) Transported to a medical facility-unknown if treated
- (9) Unknown

**63. Type Of Medical Facility (for Initial Treatment)**2

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):  
\_\_\_\_\_

(9) Unknown

**64. Hospital Stay**05

- (00) Not Hospitalized  
\_\_\_\_\_ Code the number of days (up through 60)  
that the occupant stayed in hospital.
- (61) 61 days or more
- (99) Unknown

**65. Working Days Lost**97

- \_\_\_\_\_ Code the number of days  
(up through 60) that the occupant  
lost from work due to the accident
- (00) No working days lost
- (61) 61 days or more
- (62) Fatally injured
- (97) Not working prior to accident
- (99) Unknown

**STOP WORK HERE****VARIABLES 66-74****TO BE CODED BY THE ZONE CENTER**

**TO BE CODED BY THE ZONE CENTER****INJURY CONSEQUENCES****66. Time to Death**

Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)

- (00) Not fatal  
(96) Fatal - ruled disease  
(99) Unknown

**67. 1st Medically Reported Cause of Death****68. 2nd Medically Reported Cause of Death****69. 3rd Medically Reported Cause of Death**

Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death

- (00) Not fatal or no additional causes  
(96) Mode of death given but specific injuries are not linked to cause of death. (specify):

- (97) Other result (includes fatal ruled disease) (specify):

- (99) Unknown

**70. Number of Recorded Injuries for This Occupant**

Code the actual number of injuries recorded for this occupant.

- (00) No recorded injuries  
(97) Injured, details unknown  
(99) Unknown if injured

**TRAUMA DATA****71. Glasgow Coma Scale (GCS) Score**

(at Medical Facility)

- (00) Not injured  
(01) Injured - not treated at medical facility  
(02) No GCS Score at medical facility  
(03-15) Code the actual value of the initial GCS Score recorded at medical facility.  
(97) Injured, details unknown  
(99) Unknown if injured

**72. Was the Occupant Given Blood?**

(1) No - blood not given

(2) Yes - blood given

(specify units):

(9) Unknown if blood given

**73. Arterial Blood Gases (ABG) - HCO<sub>3</sub>**

(00) Not injured

(01) Injured, ABGs not measured or reported

(02-50) Code the actual value of the HCO<sub>3</sub>

(96) ABGs reported, HCO<sub>3</sub> unknown

(97) Injured, details unknown

(99) Unknown if injured

**BELT USE DETERMINATION****74. Primary Source of Belt Use Determination**

(0) Not equipped/not available/destroyed or rendered inoperative

(1) Vehicle inspection

(2) Official injury data

(3) Driver/occupant interview

(8) Other (specify):

(9) Unknown if belt used

**Appendix K:**

**NASS CDS OCCUPANT INJURY FORM:**

**CASE VEHICLE RIGHT FRONT PASSENGER**



U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

# OCCUPANT INJURY FORM

Form Approved  
O.M.B. No. 2127-0021

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number <u>10</u>		3. Vehicle Number <u>01</u>	
2. Case Number - Stratum <u>9510</u>		4. Occupant Number <u>02</u>	

INJURY DATA													
Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.													
Source of Injury Data	Body Region	A.I.S. - 90				Injury Source	Injury Confidence Level	Direct/Indirect Injury	Occupant Area Intrusion Number				
		Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury	A.I.S. Severity					Aspect			
Fx C <sub>1</sub> neural arch-pedicles	5th	2	6	5	02	26	3	6	180	2	1	00	
Subluxation C <sub>2</sub> on C <sub>3</sub>	16th	2	6	5	02	09	2	6	180	2	1	00	
Laceration lower lip	27th	2	2	9	06	02	1	8	180	2	1	00	
Abrasion 4th forearm	38th	2	7	9	02	02	1	1	101	1	1	00	
Contusion 5th forearm	49th	2	7	9	04	02	1	1	101	1	1	00	
Abrasion 6th knee	60th	2	8	9	02	02	1	2	013	1	1	02	
Abrasion 7th knee	71th	2	8	9	02	02	1	1	013	2	1	02	
Fx 3 lower ribs	82th	7	4	5	02	20	2	2	152	3	1	00	
Sprained ankle	93th	7	8	5	02	06	1	1	251	1	1	05	
Contusion nose	104th	7	2	9	04	02	1	4	180	1	1	00	

OCCUPANT INJURY DATA											
Source of Injury Data	A.I.S. - 90						Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion Number	
	Body Region	Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury	A.I.S. Severity	Aspect					
tusion 11th	<u>7</u>	<u>2</u>	<u>9</u>	<u>04</u>	<u>02</u>	<u>1</u>	<u>8</u>	<u>180</u>	<u>1</u>	<u>1</u>	<u>00</u>
tusion 12th omen	<u>7</u>	<u>5</u>	<u>9</u>	<u>04</u>	<u>02</u>	<u>1</u>	<u>8</u>	<u>152</u>	<u>2</u>	<u>1</u>	<u>00</u>
tusion 13th shoulder	<u>7</u>	<u>7</u>	<u>9</u>	<u>04</u>	<u>02</u>	<u>1</u>	<u>1</u>	<u>152</u>	<u>2</u>	<u>1</u>	<u>00</u>
ration 14th ngers	<u>7</u>	<u>7</u>	<u>9</u>	<u>06</u>	<u>02</u>	<u>1</u>	<u>1</u>	<u>001</u>	<u>2</u>	<u>1</u>	<u>99</u>
tusion 15th p	<u>7</u>	<u>8</u>	<u>9</u>	<u>04</u>	<u>02</u>	<u>1</u>	<u>2</u>	<u>152</u>	<u>2</u>	<u>1</u>	<u>00</u>
tusion 16th nkle	<u>7</u>	<u>8</u>	<u>9</u>	<u>04</u>	<u>02</u>	<u>1</u>	<u>1</u>	<u>251</u>	<u>1</u>	<u>1</u>	<u>05</u>
17th	—	—	—	---	---	—	—	----	—	—	---
18th	—	—	—	---	---	—	—	----	—	—	---
19th	—	—	—	---	---	—	—	----	—	—	---
20th	—	—	—	---	---	—	—	----	—	—	---
21st	—	—	—	---	---	—	—	----	—	—	---
22nd	—	—	—	---	---	—	—	----	—	—	---
23rd	—	—	—	---	---	—	—	----	—	—	---
24th	—	—	—	---	---	—	—	----	—	—	---
25th	—	—	—	---	---	—	—	----	—	—	---

**A.I.S. - 90**

### Source of Injury Data

**Body  
Region**

**Type of Anatomic Structure**

**Specific  
Anatomic  
Structure**

**Level of Injury**

**A.I.S.**  
**Severity**

**Aspect**

### Injury Source

Injury Source Confidence Level	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
5	1	2	3	4																																																																																																

**Direct/  
Indirect  
Injury**

Occupant  
Area  
Intrusion  
Number

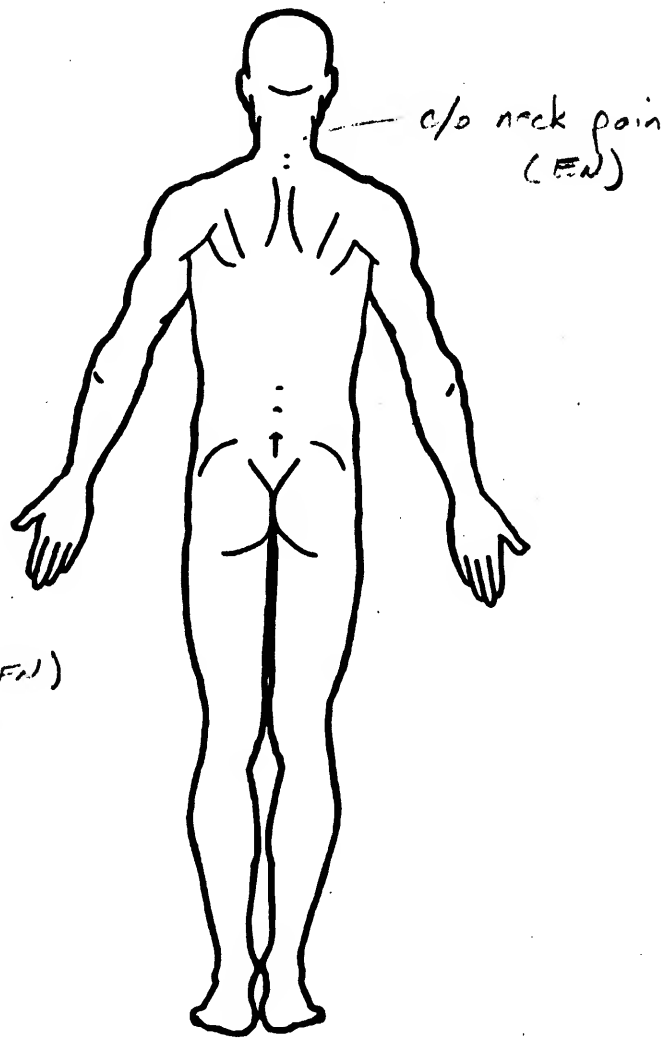
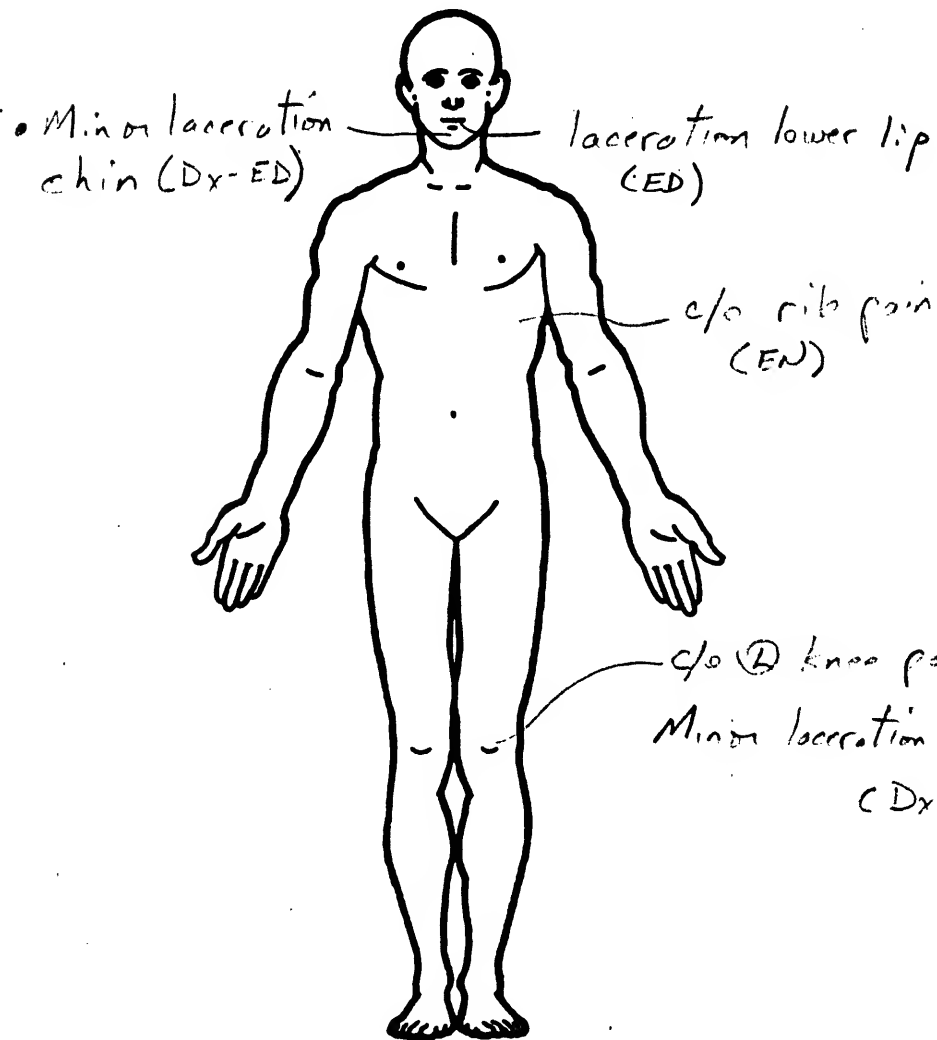


**BODY DIAGRAMS AND MEDICAL RECORDS**  
**FROM**  
**INITIAL MEDICAL FACILITY**

Transferred after treatment (ES)

OFFICIAL INJURY DATA — SOFT TISSUE INJURIES

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)



## OCCUPANT INJURY CLASSIFICATION

Body Region	Specific Anatomic Structure	Level of Injury	Aspect
(1) Head		Specific injuries are assigned consecutive	(1) Right
(2) Face		two-digit numbers beginning with 02.	(2) Left
(3) Neck	<u>Vessels, Nerves, Organs.</u>		(3) Bilateral
(4) Thorax	<u>Bones, Joints</u> are assigned		(4) Central
(5) Abdomen	consecutive two digit	To the extent possible,	(5) Anterior
(6) Spine	numbers beginning with	within the organizational	(6) Posterior
(7) Upper Extremity	02.	framework of the AIS, 00	(7) Superior
(8) Lower Extremity	The exceptions to this rule	is assigned to an injury	(8) Inferior
(9) Unspecified	apply to:	NFS as to severity or	(9) Unknown
		where only one injury is	(0) Whole region
		given in the dictionary for	
		that anatomic structure.	
		99 is assigned to any	
		injury NFS as to lesion or	
		severity.	
<b>Type of Anatomic Structure</b>	<u>Whole Area</u>	<b>Abbreviated Injury Scale</b>	
(1) Whole Area	(02) Skin - Abrasion	(1) Minor Injury	
(2) Vessels	(04) Skin - Contusion	(2) Moderate Injury	
(3) Nerves	(06) Skin - Laceration	(3) Serious Injury	
(4) Organs (includes Muscles/ligaments)	(08) Skin - Avulsion	(4) Severe Injury	
(5) Skeletal (includes joints)	(10) Amputation	(5) Critical Injury	
(6) Head - LOC	(20) Burn	(6) Maximum (untreatable)	
(9) Skin	(30) Crush	(7) Injured, unknown severity	
	(40) Degloving		
	(50) Injury - NFS		
	(90) Trauma, other than mechanical		
	<u>Head - LOC</u>		
	(02) Length of LOC		
	(04) Level		
	(06) of		
	(08) Consciousness		
	(10) Concussion		
	<u>Spine</u>		
	(02) Cervical		
	(04) Thoracic		
	(06) Lumbar		

## SOURCE OF INJURY DATA

## INJURY SOURCE

## DIRECT/INDIRECT INJURY

## CONFIDENCE LEVEL

OFFICIAL RECORDS

- (1) Autopsy records with or without hospital/medical records
- (2) Hospital/medical records other than emergency room (e.g., discharge summary)
- (3) Emergency room records only (including associated X-rays or other lab reports)
- (4) Private physician, walk-in or emergency clinic

UNOFFICIAL RECORDS

- (5) Lay coroner report
- (6) E.M.S. personnel
- (7) Interviewee
- (8) Other source (specify): \_\_\_\_\_
- (9) Police

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

- (1) Direct contact injury
- (2) Indirect contact injury
- (3) Noncontact injury
- (7) Injured, unknown source

## OFFICIAL INJURY DATA — SKELETAL INJURIES

Restrained?

No  
☒ Yes

Blood Alcohol  
Level (mg/dl)

BAL = \_\_\_\_

Glasgow Coma  
Scale Score

GCSS = 15  
 (ED)

Units of Blood  
Given

Units = \_\_\_\_

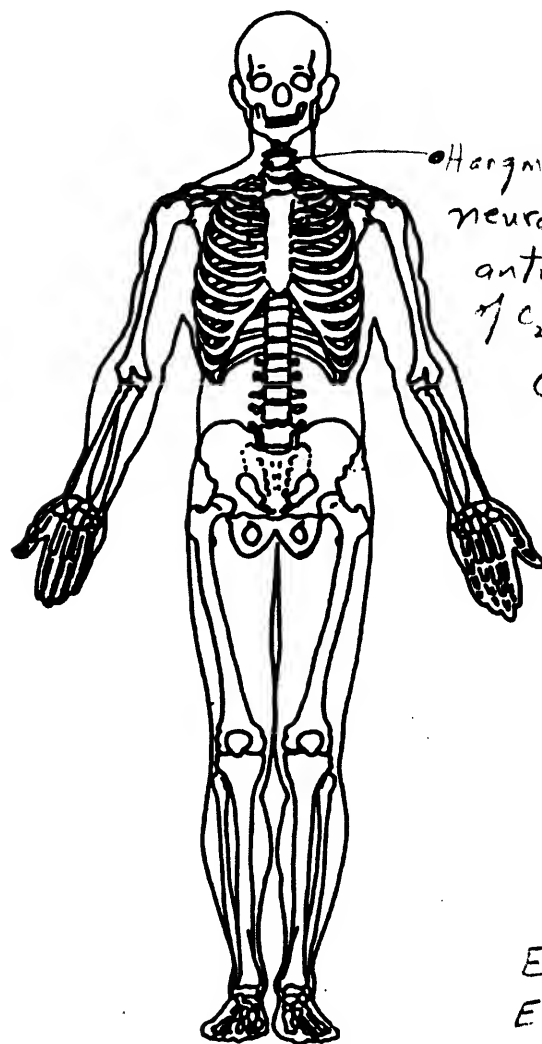
Arterial Blood  
Gases

pH = \_\_\_\_

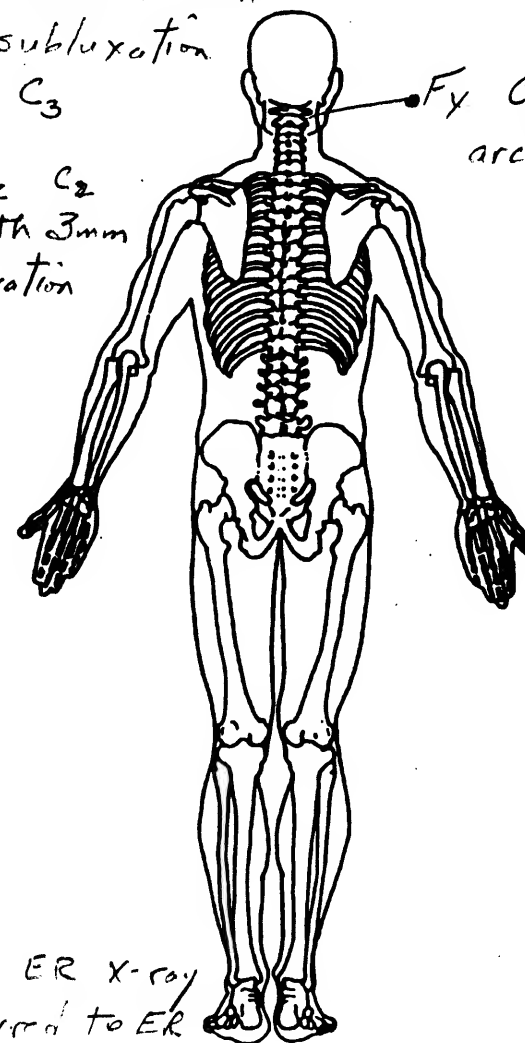
PO<sub>2</sub> = \_\_\_\_PCO<sub>2</sub> = \_\_\_\_HCO<sub>3</sub> = \_\_\_\_

Passenger with seat belt, required extrication by rescue services  
 (ED)

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)



- Fx C<sub>2</sub> Process with anterior subluxation of C<sub>2</sub> on C<sub>3</sub> (ED)
- Hargman's fracture C<sub>2</sub> neural arch with 3mm anterior subluxation of C<sub>2</sub> relative C<sub>3</sub> (EX1)



- Fx C<sub>2</sub>, neural arch, nondisplaced (EX2)

EX1 - Initial ER X-ray  
 EX2 - Transferred to ER X-ray

## INJURY SOURCES

### FRONT

- (001) Windshield
- (002) Mirror
- (003) Sunvisor
- (004) Steering wheel rim
- (005) Steering wheel hub/spoke
- (006) Steering wheel (combination of codes 004 and 005)
- (007) Steering column, transmission selector lever, other attachment
- (008) Cellular telephone or CB radio
- (009) Add on equipment (e.g., tape deck, air conditioner)
- (010) Left instrument panel and below
- (011) Center instrument panel and below
- (012) Right instrument panel and below
- (013) Glove compartment door
- (014) Knee bolster
- (015) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (016) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
- (017) Windshield reinforced by exterior object (specify): \_\_\_\_\_
- (019) Other front object (specify): \_\_\_\_\_

### LEFT SIDE

- (051) Left side interior surface, excluding hardware or armrests
- (052) Left side hardware or armrest
- (053) Left A (A1/A2)-pillar
- (054) Left B-pillar
- (055) Other left pillar (specify): \_\_\_\_\_
- (056) Left side window glass
- (057) Left side window frame
- (058) Left side window sill
- (059) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (060) Other left side object (specify): \_\_\_\_\_

### RIGHT SIDE

- (101) Right side interior surface, excluding hardware or armrests

- (102) Right side hardware or armrest
- (103) Right A (A1/A2)-pillar
- (104) Right B-pillar
- (105) Other right pillar (specify): \_\_\_\_\_
- (106) Right side window glass
- (107) Right side window frame
- (108) Right side window sill
- (109) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (110) Other right side object (specify): \_\_\_\_\_

### INTERIOR

- (151) Seat, back support
- (152) Belt restraint webbing/buckle
- (153) Belt restraint B-pillar or door frame attachment point
- (154) Other restraint system component (specify): \_\_\_\_\_
- (155) Head restraint system
- (160) Other occupants (specify): \_\_\_\_\_
- (161) Interior loose objects
- (162) Child safety seat (specify): \_\_\_\_\_
- (163) Other interior object (specify): \_\_\_\_\_

### AIR BAG

- (170) Air bag-driver side
- (171) Air bag-driver side and eyewear
- (172) Air bag-driver side and jewelry
- (173) Air bag-driver side and object held
- (174) Air bag-driver side and object in mouth
- (175) Air bag compartment cover-driver side
- (176) Air bag compartment cover-driver side and eyewear
- (177) Air bag compartment cover-driver side and jewelry
- (178) Air bag compartment cover-driver side and object held
- (179) Air bag compartment cover-driver side and object in mouth
- (180) Air bag-passenger side
- (181) Air bag-passenger side and eyewear
- (182) Air bag-passenger side and jewelry

- (183) Air bag-passenger side and object held
- (184) Air bag-passenger side and object in mouth
- (185) Air bag compartment cover-passenger side
- (186) Air bag compartment cover-passenger side and eyewear
- (187) Air bag compartment cover-passenger side and jewelry
- (188) Air bag compartment cover-passenger side and object held
- (189) Air bag compartment cover-passenger side and object in mouth
- (190) Other air bag (specify): \_\_\_\_\_
- (195) Other air bag compartment cover (specify): \_\_\_\_\_

### ROOF

- (201) Front header
- (202) Rear header
- (203) Roof left side rail
- (204) Roof right side rail
- (205) Roof or convertible top
- (251) Floor (including toe pan)
- (252) Floor or console mounted transmission lever, including console
- (253) Parking brake handle
- (254) Foot controls including parking brake

### REAR

- (301) Backlight (rear window)
- (302) Backlight storage rack, door, etc.
- (303) Other rear object (specify): \_\_\_\_\_

### ADAPTIVE (ASSISTIVE) DRIVING EQUIPMENT

- (401) Hand controls for braking/acceleration
- (402) Steering control devices (attached to OEM steering wheel)
- (403) Steering knob attached to steering wheel
- (405) Replacement steering wheel (i.e., reduced diameter)
- (406) Joy stick steering controls
- (407) Wheelchair tie-downs
- (408) Modification to seat belts, (specify): \_\_\_\_\_
- (409) Additional or relocated switches, (specify): \_\_\_\_\_
- (410) Raised roof

- (411) Wall mounted head rest (used behind wheel chair)
- (412) Other adaptive device (specify): \_\_\_\_\_

### EXTERIOR OF OCCUPANT'S VEHICLE

- (451) Hood
- (452) Outside hardware (e.g., outside mirror, antenna)
- (453) Other exterior surface or tire (specify): \_\_\_\_\_
- (454) Unknown exterior objects

### EXTERIOR OF OTHER MOTOR VEHICLE

- (501) Front bumper
- (502) Hood edge
- (503) Other front of vehicle (specify): \_\_\_\_\_
- (504) Hood
- (505) Hood ornament
- (506) Windshield, roof rail, A-pillar
- (507) Side surface
- (508) Side mirrors
- (509) Other side protrusions (specify): \_\_\_\_\_
- (510) Rear surface
- (511) Undercarriage
- (512) Tires and wheels
- (513) Other exterior of other motor vehicle (specify): \_\_\_\_\_
- (514) Unknown exterior of other motor vehicle

### OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT

- (551) Ground
- (598) Other vehicle or object (specify): \_\_\_\_\_
- (599) Unknown vehicle or object

### NONCONTACT INJURY

- (601) Fire in vehicle
- (602) Flying glass
- (603) Other noncontact injury source (specify): \_\_\_\_\_
- (604) Air bag exhaust gases
- (697) Injured, unknown source

## OFFICIAL INJURY DATA — INTERNAL INJURIES

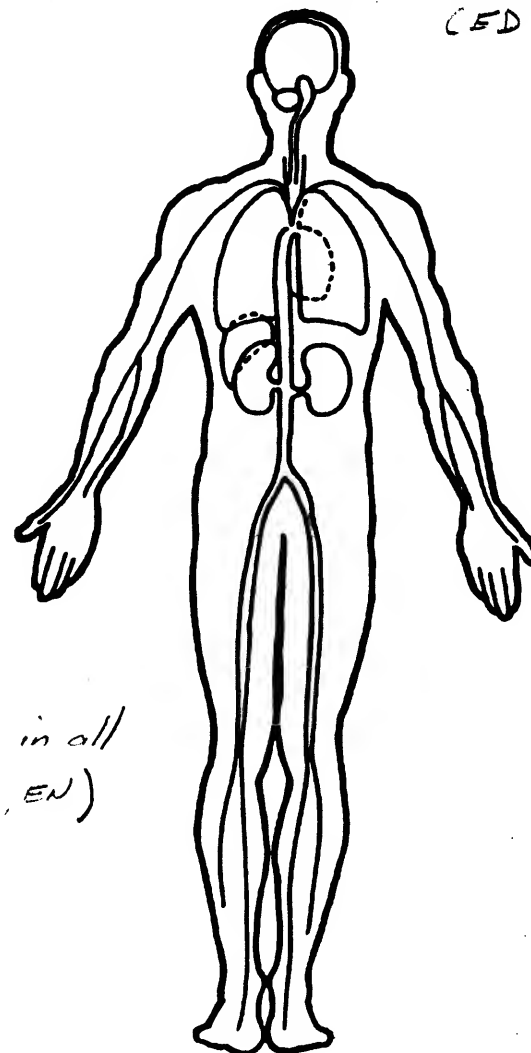
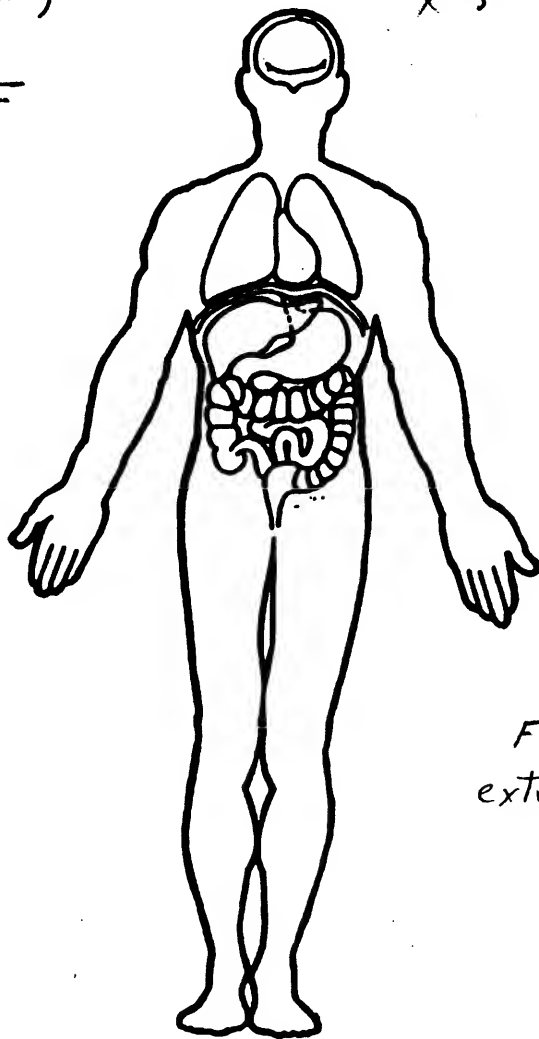
Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

• c/o Nausea, vomited  
(ED, EN)

• Spontaneously oriented  
X 3

• No h/c, able to recall clearly  
(ED, EN) incidents over entire course of crash  
(ED)

• CN II - VII  
intact  
(ED)



Full sensation in all  
extremities (ED, EN)

## CAUSE OF DEATH

## ICD-9-CM

806.00 Cervical Fx, closed G-Cy  
 873.94 Head wound, other location  
 891.0 open wound knee  
 787.01 Nausea + vomiting

## OTHER DRUGS (GV16)

Specimen Test Type	Drug(s)	Drug Type
<input type="checkbox"/> Blood and urine tests <input type="checkbox"/> Blood test only <input type="checkbox"/> Urine test only <input type="checkbox"/> Other test <input type="checkbox"/> Unspecified		

## MEDICAL RECORD ABBREVIATIONS

Symbol	Record Type Description
A	Autopsy—medical information based upon an invasive examination of a body
ME	Medical examiner's record—where the information reported on the patient is based on a non-invasive examination of the body
AR	Admission record/summary—any medical information on this record should be considered as post-ER since it summarizes the patient's admission; these records are common in short hospitalizations and usually only contain: admission DX(s), final DX(s), and a listing of surgical treatments; ICD-9-CM codes are frequently available.
FS	Admission/discharge face sheet—face sheets are essentially the same as admission record/summaries and contain the same types of information as discussed above
DS	Discharge summary—shorten history of a patient's hospitalization highlighting the patient's major injuries; this record is often written from the perspective of its author which in many cases is a consultant
OS	Operative record—summary of a performed surgical operation often providing detailed information about a specific trauma; patients who survive the surgery are normally admitted; thus, this record is normally considered post-ER; however, if this record results from an outpatient surgery, then treat it as emergency-room related
FX	Radiographic records—taken after the patient has been admitted, or while in surgery or intensive care
PN	Patient progress notes—supplemental record containing additional nurses notes taken after the patient's admission
HP	History and physical exam—medical history and the results of the physical exam obtained by the emergency room physician assigned to the patient upon arrival at the emergency room
CN	Consultation record—consultations are in essence additional history and physical exams performed by doctors whose expertise was requested by the emergency room physician; the consultation may occur during the emergency room visit or after admission
ER	Emergency room report—where the author of this information is undefined
EN	Emergency room nurse—"nurse/complaint of" section on the emergency room report
ED	Emergency room doctor—"objective/physical exam" section plus "diagnosis and treatment" sections (i.e., doctor portion of emergency room report)
NN	Nurse notes—supplemental record containing additional notes taken by the emergency room nurse(s)
EX	Radiographic records—taken during the patients stay in the emergency room
CV	Coroner's verdict—statement of cause of death for legal specific regarding injuries; care must be exercised to ascertain the credentials of the verdict's author.
CR	Coroner's report—medical information based upon a noninvasive examination performed by a person who is not a doctor but who has the title of a coroner
ET	Emergency medical technician—report by a person who qualifies as an emergency medical services technician (EMS or EMT)
O	Other source—medical information based on an other source (e.g., newspaper, DVM—Doctor of Veterinary Medicine)

## ED-OP REGISTRATION

HOSPITAL										1. MEDICAL RECORD NO		2. BILLING NO		3. AIR NO											
TX										4. CLASS		5. DATE		6. TIME		7. SAC		8. TYPE		9. SAC					
ED												22:30		07		E									
10. PATIENT'S LEGAL NAME (L, F, M)										11. SEX		12. RACE		13. BIRTHDATE		14. AGE		15. HEIGHT		16. WEIGHT		17. SS		18. US	
20. ACHS STAY										F		H		034						N					
21. PATIENT'S LEGAL ADDRESS										CITY/STATE		ZIP-		0000						TX					
23. ES										24. PATIENT'S EMPLOYER		25. EMPLOYER ADDRESS		CITY/STATE											
N																									
27. SOCIAL SECURITY NO										28. EMPLOYEE ID		29. LOE		30. OCCUPATION		31.		32. LOR		33. COUNTY CODE		34. COUNTY			
25. SP										36. RESPONSIBLE PARTY		37. RESPONSIBLE PARTY'S ADDRESS		CITY/STATE		ZIP-		0000							
SP																									
39. ES										40. RESPONSIBLE PARTY'S EMPLOYER		41. EMPLOYER ADDRESS		CITY/STATE		ZIP-		000							
F																									
43. SOCIAL SECURITY NO										44. EMPLOYEE ID		45. LOE		46. OCCUPATION		47.		48. LOR		49. COUNTY CODE		50. COUNTY			
														TEACHER											
51. SP										52. OTHER PARTY		53. OTHER PARTY'S ADDRESS		CITY/STATE											
Y																									
56. SOCIAL SECURITY NO										57. EMPLOYEE ID		58. LOE		59. OCCUPATION		60.		61. LOR		62. COUNTY CODE		63. COUNTY			
67. INS CODE										68. SP		69. PAYER		70. CLAIM PROCESSING ADDRESS		CITY/STATE		ZIP-							
P																									
R																									
I																									
M																									
A																									
Y																									
71. INSURED										72. REL INFO		73. ASG BEN		74. SP PROG		75. CONDITIONS		76. CD		77. FROM		78. THROUGH			
																01									
79. CERTIFICATE SSN/HIC ID NO										80. GROUP NAME		81. INSURANCE GROUP NO		82. TREATMENT AUTH											
83. COVERAGE																									
S																									
E																									
C																									
O																									
N																									
D																									
A																									
R																									
Y																									
71. INSURED										72. REL INFO		73. ASG BEN		74. SP PROG		75. CONDITIONS		76. CD		77. FROM		78. THROUGH			
79. CERTIFICATE SSN/HIC ID NO										80. GROUP NAME		81. INSURANCE GROUP NO		82. TREATMENT AUTH											
83. COVERAGE																									
T																									
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A																									
R																									
Y																									
71. INSURED										72. REL INFO		73. ASG BEN		74. SP PROG		75. CONDITIONS		76. CD		77. FROM		78. THROUGH			
79. CERTIFICATE SSN/HIC ID NO										80. GROUP NAME		81. INSURANCE GROUP NO		82. TREATMENT AUTH											
83. COVERAGE																									
84. PR										85. NOTIFY IN EMERGENCY		86. HOME TELE		87. WORK TELE		88. HOW PATIENT ARRIVED									
M																EMS									
89. COMPLAINT 90										91. PROC. CD		92. PROCEDURE		93. LOC		94. TIME		95. ANES							
MVA																00:00									
ACCIDENT																									
96. TYPE										97. DATE		98. TIME		99. TYPE		100. DATE		101. MIL REL		102. EMP REL		103.			
01 AUTO ACC										95		00:00				95									
104. PHYSICIAN CALLED										105. ATTENDING PHYSICIAN		106. PHYSICIAN		107. PHYSICIAN		108. PHYSICIAN		109. PHYSICIAN		110. PHYSICIAN		111. PHYSICIAN			
										M.D.				M.D.											
107.										108.		109.		110.		111.		112.		113.					
114. REV CAT										115. BASE CH		116. OP INS		117. EST CHGS		118. JAL		119. BY							

Transferred

Hospital



HOSPITAL

, TEXAS

EMERGENCY DEPARTMENT  
PHYSICIAN RECORD

PATIENT IDENTIFICATION

ALLERGIES:

TETANUS STATUS: LMP:

CURRENT MEDICATIONS:

PERTINENT PAST MEDICAL HISTORY:

CURRENT MEDICAL DOCTOR:

DATE / TIME	ASSESSMENT	ORDERS	RESULTS
4/5 1130 2330	22 year old WQ in MVA paralyze & seatbelt. Required extraction by rescue services. No LOC; able to recall clearly incident over the entire course of accident. 1/2 N T episode left arm (pale) [PE] Gen: slightly obese WF alert in C-collar able to speak & oriented.	C spine - C2 X.d 0.5" Done MM PE tube - 2nd to 6th Foley to 10 cm	intact non displaced fracture
	HEENT - NC location & lower lip; EOMI; PERL; Fundi WNL; CHST - XII intact CHST - CU - WNL ABD - no ecchymoses DPS - no reactive non-tender no rebound EXT - full ROM full sensation in all ext (light touch) peripheral pulses 2+ reflexes	Phenobarb 25mg IVSP Regal 10 mg IV	
	discussed with Dr [redacted] Plan Transfer to [redacted] Hosp E.D. with	Compazine 10mg IV Transfer to [redacted] via ground [redacted] for procedure C-collar [redacted] Foley to 10 cm [redacted] tube to 10 cm [redacted] tube to 10 cm	

PROVISIONAL DIAGNOSIS:

Ex C2, process 2 nt. subluxation C2 C3  
MVA minor laceration chin & nose

MANAGEMENT PLAN:

RELEASED TO	AMBULATORY	PRIVATE AUTO	GOOD	CRITICAL
DISP: ADMIT / ROOM NO.	WHEELCHAIR	AMBULANCE	BEAR	DECEASED
TRANSFERRED / FACILITY	STRETCHER	LIFE FLIGHT	POOR	
REFERRED TO	CARRIED	AMA		
REFERRED TO				
TIME LEFT E/R				

HOSPITAL

, TEXAS

## EMERGENCY DEPT. NURSES' NOTES PAGE 1

HOW ARRIVED: <input checked="" type="checkbox"/> PVT AUTO <input type="checkbox"/> AMB <input type="checkbox"/> POLICE <input type="checkbox"/> WHEELCHAIR <input type="checkbox"/> CARRIED	CC: MVA: 1/6 basilar skull						
ALLERGIES: Demerol	LMP: 1/95						
TETANUS STATUS: > 5 yrs	Directed to Registration:						
WT: 180	PRIORITY:						
PRESENT MEDS: None	Taken to Room # 15						
TIME: 2207							
TREATMENT PRIOR TO ARRIVAL: C-Spine <del>to</del> + backboard JW LR-4000C							
PHM							
TRIAGE TIME 2207 Injured: 1/6 MVA. 1/6 neck pain, rib pain, 1/6 knee pain. Denied SOB or CP. Denied abd pain. Pelvis stable. Sensation noted to lower lip & 1/6 knee. BS clear distal. Abd 3/4 palpation 84yo W.F.							
BP 150/90	T 98.4						
P 92	R 18						
DATE: 1/95	NURSES SIGNATURE: [Signature]						
NURSING DIAGNOSIS							
TIME	B/P	T	P	R	NDX	MEDS OR TREATMENT	INTERVENTION/REASSESSMENT
2225	150						To radiology for C-spine X-ray.
2240							Returned from X-ray & transferred to ER #4.
2245							Pt returned to full C-spine immobilization
2315							Pt feeling very nauseated
2330							Phenergan 25mg ZUP slowly over 2m. #16 N-G attempted Pt vomited large amount of DT (Dum 05) undigested food. Pt remained in spine immobilization rolled to R Side - Sustained - continued to have normal sensation & movement of all extremities.
2335							#16 N-G tube inserted orally to suction (low) large amount undigested food returned
INTAKE IN CC	→	ORAL	BLOOD	IV	OTHER	TOTAL INTAKE	
OUTPUT IN CC	→	URINE	EMESIS	NG	OTHER	TOTAL OUTPUT	
POLICE NOTIFIED: <input type="checkbox"/> CPD <input type="checkbox"/> MCSO <input type="checkbox"/> HOUSTON <input type="checkbox"/> OTHER	NURSE'S SIGNATURE:						

## HOSPITAL

**TEXAS**

**EMERGENCY DEPARTMENT  
NURSES NOTES - PAGE 2**

SIGNATURE OF NURSE						DATE	PATIENT IDENTIFICATION
TIME	BP	T	P	R	NDX	MEDS OR TREATMENT	INTERVENTION/REASSESSMENT
2335							Reglan 10mg ZUP over Sun
2340	155/80		92	16			#18 Fr Soley inserted to straight drainage 700cc clear yellow urine returned from Soley - Pt remain stable strength drowsy from medication oriented x3/ breath sounds good bilateral - good sensations & movement of all extremities awaiting transfer from to [redacted] Hospital via life flight Life Flight can't make it PI will be transported by ground to [redacted] / trap per MC - EMS, medics in stable condition PT having persistent nausea emesis pleuritic OGT, reglan phenazone Comprimide 10mg ZUP on 6 [redacted] in stable condition
2345							
2350							
2355							
2400							
2405							
2410							
2415							
2420							
2425							
2430							
2435							
2440							
2445							
2450							
2455							
2500							
2505							
2510							
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2605							
2610							
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2755							
2800							
2805							
2810							
2815							
2820							
2825							
2830							
2835							
2840							
2845							
2850							
2855							
2900							
2905							
2910							
2915							
2920							
2925							
2930							
2935					</		

, TEXAS

CHART COPY

REPORT  
FORM

PAGE 1

PATIENT. REFERRING MD: , DO  
SEX: F AGE: 34 DOB: PRIMARY MD:  
XR#: MR#:  
EXAM DATE: -95 ROOM: E/ EMERGENCY RQ#: SS#:

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## LATERAL CERVICAL SPINE

There is a hangman's fracture of C2 with 3 mm. anterior subluxation of C2 relative to C3.

IMPRESSION: UNSTABLE FRACTURE THROUGH THE NEURAL ARCH OF C2.

Reporting Dr: \_\_\_\_\_, M. D.

Entered By: \_\_\_\_\_ Transcribed \_\_\_\_\_/95 9:07am  
\*\*\* END OF REPORT \*\*\*

<p><b>1. Name of Hospital:</b> <u>MEDICAL CENTER</u>  <b>Address:</b> _____  <b>Phone Number:</b> (____) _____</p> <p><b>2. Patient Information (If known)</b>  <b>Patient's full name:</b> _____  <b>Address:</b> _____  <b>Phone Number:</b> (____) _____  <b>Sex:</b> <u>M</u> <input checked="" type="checkbox"/> <u>F</u> <input type="checkbox"/> <b>Age:</b> <u>34</u>  <b>National origin:</b> _____ <b>Race:</b> <u>W</u>  <b>Religion:</b> _____ <b>Physical handicap:</b> _____</p> <p><b>3. Next of kin information (If known)</b>  <b>Next of kin:</b> _____  <b>Address:</b> _____  <b>Phone Number:</b> (____) <u>Same</u>  <b>Next of kin notified?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><b>4. Date of Arrival:</b> <u>9/5</u> <b>Time:</b> <u>22:30</u></p> <p><b>5. Initial contact with receiving hospital:</b>  <b>Date:</b> <u>9/5</u> <b>Time:</b> <u>22:55</u>  <b>Name of contact person at receiving hospital:</b> _____</p> <p><b>6. Accepting physician assumed by transferring physician:</b>  <b>Date:</b> <u>9/5</u> <b>Time:</b> <u>23:00</u>  <b>Name of accepting physician:</b> _____  <b>Phone Number:</b> _____  <b>Address:</b> _____</p>	<p><b>7. Transferring physician's signature or signature of hospital staff acting under physician's orders:</b> _____  <b>Phone number:</b> _____  <b>Address:</b> _____</p> <p><b>8. Accepting physician assumed by transferring hospital:</b>  <b>Date:</b> <u>9/5</u> <b>Time:</b> <u>23:07</u>  <b>Name of accepting hospital administration person:</b> _____</p> <p><b>9. Transferring hospital administration signature:</b> _____  <b>Title:</b> _____</p> <p><b>10. Type of vehicle and company used:</b>  <u>EMS</u></p> <p><b>11. Facility transported to:</b> _____  <b>Address:</b> _____  <b>Phone Number:</b> _____</p> <p><b>12. Diagnosis:</b> <u>C2 Fr</u></p> <p><b>13. Attachments:</b>  X-Ray <input checked="" type="checkbox"/> MD Progress Notes <input checked="" type="checkbox"/>  Lab Reports _____ Nurses Progress Notes _____  H &amp; P <input checked="" type="checkbox"/> Medication Record _____  Other _____</p>
--	---

**PHYSICIAN CERTIFICATION:** Based on the information available at the time of transfer, the medical benefits reasonably expected from the provision of appropriate medical treatment at another medical facility outweigh the increased risks of the transfer to the patient and, in the case of labor, the unborn child.

↑ LOC - No neurosurgeon at this facility

Physician's signature \_\_\_\_\_

**SECTION 2 (To be filled out at Receiving Hospital)**

<p><b>1. Name of Hospital:</b> _____  <b>Address:</b> _____  <b>Phone Number:</b> (____) _____</p> <p><b>2. Date of Arrival:</b> _____ <b>Time:</b> _____</p> <p><b>3. Hospital Administration Signature:</b> _____  <b>Title:</b> _____</p>	<p><b>4. Receiving physician assuming patient responsibility:</b>  <b>Date:</b> _____ <b>Time:</b> _____  <b>Receiving Physician's signature:</b> _____  <b>Address:</b> _____  <b>Phone Number:</b> (____) _____</p> <p><b>5. If response to transfer request was delayed beyond thirty (30) minutes, document the reason(s) for the delay, including any time extensions agreed to by transferring hospital. Use additional sheet, if necessary.</b>  _____  _____  _____</p>
--	---

**DISTRIBUTION:** Original to accompany patient to receiving hospital. Copy to be retained at transferring hospital.

## ED-OP REGISTRATION

HOSPITAL				1 MEDICAL RECORD NO		2 BILLING NO		3 A/R NO	
TX				4 CLASS		5 DATE		6 TIME	
DP				95		12:31		01	
7 PATIENT'S LEGAL NAME (L, F, M)				8 SEX		9 RACE		10 BIRTHDATE	
F				W		034		M	
11 PATIENT'S LEGAL ADDRESS				12 CITY/STATE		13 ZIP		14 TELE	
TX				TX		0000		TX	
15 PATIENT'S EMPLOYER				16 EMPLOYER ADDRESS		17 CITY/STATE		18 TELE	
N				TX		0000		TX	
19 SOCIAL SECURITY NO				20 EMPLOYER ID		21 LOE		22 OCCUPATION	
31				32		33		34	
35 RESPONSIBLE PARTY				36 RESPONSIBLE PARTY'S ADDRESS		37 CITY/STATE		38 ZIP	
SP				TX		0000		TX	
39 RESPONSIBLE PARTY'S EMPLOYER				40 EMPLOYER ADDRESS		41 CITY/STATE		42 ZIP	
F				TX		0000		TX	
43 SOCIAL SECURITY NO				44 EMPLOYER ID		45 LOE		46 OCCUPATION	
TEACHER				339		339		339	
47 OTHER PARTY				48 OTHER PARTY'S ADDRESS		49 CITY/STATE		50 ZIP	
TX				TX		0000		TX	
51 OTHER PARTY'S EMPLOYER				52 EMPLOYER ADDRESS		53 CITY/STATE		54 ZIP	
TX				TX		0000		TX	

, M.D.  
 , M.D., Ph.D.  
 , M.D.  
 , M.D.  
 , MSc, M.D., FRCS (C)  
 , M.D.

FOR: \_\_\_\_\_ DATE: 1/95

ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_ ST: \_\_\_\_\_ ZIP: \_\_\_\_\_ AGE: 34

R. A10 h Lat C-spine  
 (Sull) and lateral cone  
 centered on C2  
 101 - C2 S1

Refill: ☐ 1 ☐ 2 ☐ 3 ☐ NR

DEA# \_\_\_\_\_

DR SIGNATURE - DISPENSE AS WRITTEN

DR SIGNATURE - PRODUCT SELECTION PERMITTED

55 LOR		56 COUNTY CODE		57 COUNTY	
TX		TX		TX	
OCCURRENCE					
76 CD	77 FROM	78 THROUGH			
1	1	9			
OCCURRENCE					
76 CD	77 FROM	78 THROUGH			
1	1	9			
OCCURRENCE					
76 CD	77 FROM	78 THROUGH			
1	1	9			

84 PR		85 NOTIFY IN EMERGENCY		86 HOME TELE		87 WORK TELE		88 HOW PATIENT ARRIVED	
TX		TX		TX		TX		TX	
89 COMPLAINT 90				OUTPATIENT SURGERY INFORMATION					
R/O PINCHED NERVE/MUSCLE				91 PROC. CD		92 PROCEDURE		93 LOC	
ACCIDENT				94 TIME		95 TYPE		96 TIME	
95				00:00		11		95	
97 PHYSICIAN CALLED				98 ATTENDING PHYSICIAN				99 FAMILY PHYSICIAN	
TX				TX				TX	
100 SPECIAL CATEGORIES		101 DEMOGRAPHIC CD		102 REV CAT		103 BASE OR		104 OF MS	
100		00		00		07		N	

MEDICAL RECORDS COPY

**TEXAS**

**CHART COPY**

## REPORT FORM

PAGE 1

PATIENT: REFERRING MD: , MD  
SEX: F AGE: 34 DOB: PRIMARY MD:  
XR#: MR#:  
EXAM DATE: 11-19-95 ROOM: OP RQ#: SS#:

## CERVICAL SPINE

Three view cervical spine was performed in the AP, lateral and open mouth view with the patient in a halo. Examination reveals fracture through the neural arch of C2 with no evidence of displacement. There is no evidence of prevertebral soft tissue swelling. Suggestion of minimal subluxation noted on the prior radiograph of 11/95 is no longer seen.

On the open mouth view the odontoid is somewhat obscured by the upper central incisors however fracture in the region of the lateral mass of C2, particularly on the left side is identified.

IMPRESSION: FRACTURE THROUGH THE NEURAL ARCH OF C2 WITHOUT ANY EVIDENCE OF SUBLUXATION. THE PATIENT IS IN A HALO AND THERE IS SOME IMPROVEMENT IN THE MINIMAL DISPLACEMENT NOTED ON PRIOR EXAMINATION.

Reporting Dr: \_\_\_\_\_  
                                , M. D.

Entered By: [REDACTED] Transcribed [REDACTED] 95 10:43am  
\*\*\* END OF REPORT

**BODY DIAGRAMS AND MEDICAL RECORDS**  
**FROM**  
**NEUROLOGIST IN CHARGE OF THIS OCCUPANT**  
**AT MEDICAL FACILITY TO WHICH THIS OCCUPANT WAS TRANSFERRED**

The following records were received subsequent to this contractor's initial case submission. Among this physician's records is the discharge summary from the hospital to which this occupant was transferred and hospitalized. This contractor was not able to obtain any of this occupant's records from the "*transferred to*" facility. Specifically missing are the emergency room record, the emergency room nurses notes, the nurses progress notes, x-rays other than to the cervical spine, and any history and physical examinations--including consultants. These records would have been very helpful in regards to the other (i.e., noncervical) injuries reported by this occupant. Note, the x-ray on pages 112R and 118R is identical except for the "copy version" (i.e., a photocopy of the "*chart*" copy was provided to the initial treating facility whereas a photocopy of the "*emergency room copy*" was provided by the neurologist.



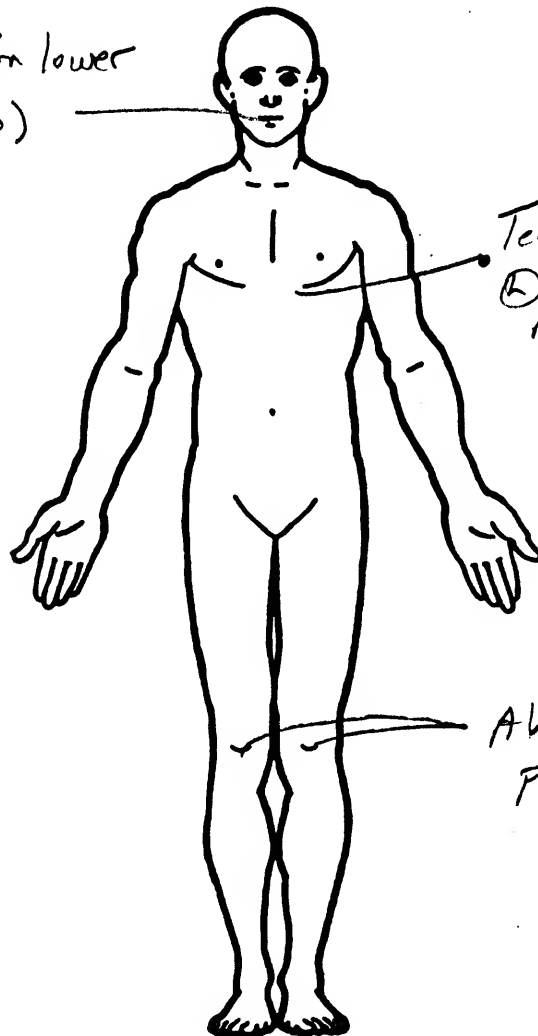
# OFFICIAL INJURY DATA — SOFT TISSUE INJURIES

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

• Extrication required (DS)

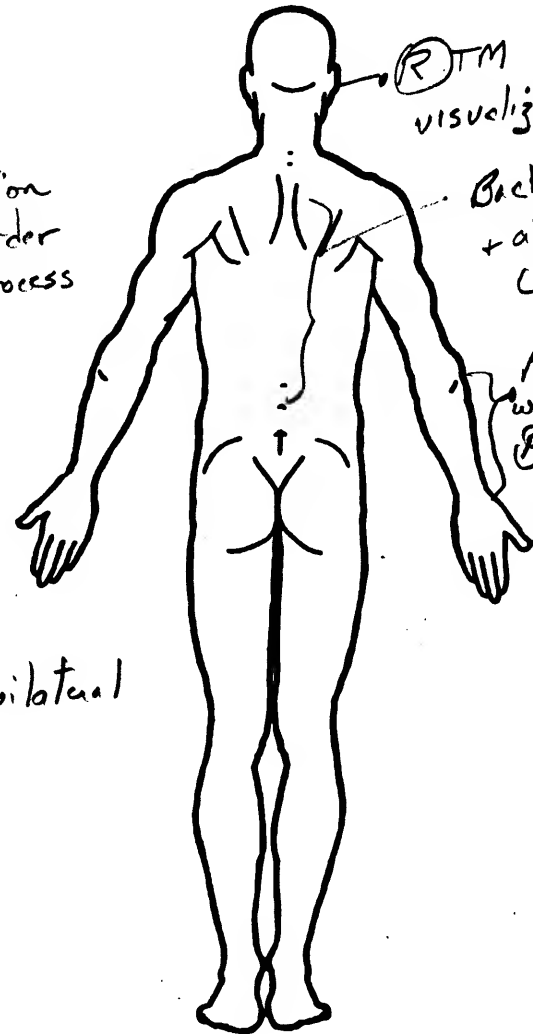
HEENT: atraumatic

• Laceration lower lip (DS)



Tenderness to palpation  
(R) lower sternal border  
near xiphoid process  
(DS)

Abrasions, small, bilateral  
patellae



(R) TM not  
visualized

Back, no deformity  
+ atraumatic  
(DS)

Abrasion  
with ecchymosis  
(R) forearm  
(DS)

UPDATE SUBMISSION

## OCCUPANT INJURY CLASSIFICATION

Body Region	Specific Anatomic Structure	Level of Injury	Aspect
(1) Head		Specific injuries are assigned consecutive two-digit numbers beginning with 02.	(1) Right
(2) Face			(2) Left
(3) Neck	<u>Vessels, Nerves, Organs.</u>	To the extent possible, within the organizational framework of the AIS, 00 is assigned to an injury NFS as to severity or where only one injury is given in the dictionary for that anatomic structure. 99 is assigned to any injury NFS as to lesion or severity.	(3) Bilateral
(4) Thorax	<u>Bones, Joints</u> are assigned consecutive two digit numbers beginning with 02.		(4) Central
(5) Abdomen		The exceptions to this rule apply to:	(5) Anterior
(6) Spine			(6) Posterior
(7) Upper Extremity		The exceptions to this rule apply to:	(7) Superior
(8) Lower Extremity			(8) Inferior
(9) Unspecified			(9) Unknown
			(0) Whole region
Type of Anatomic Structure	Whole Area	Abbreviated Injury Scale	
(1) Whole Area	(02) Skin - Abrasion	(1) Minor Injury	
(2) Vessels	(04) Skin - Contusion	(2) Moderate Injury	
(3) Nerves	(06) Skin - Laceration	(3) Serious Injury	
(4) Organs (includes Muscles/ligaments)	(08) Skin - Avulsion	(4) Severe Injury	
(5) Skeletal (includes joints)	(10) Amputation	(5) Critical Injury	
(6) Head - LOC	(20) Burn	(6) Maximum (untreatable)	
(9) Skin	(30) Crush	(7) Injured, unknown severity	
	(40) Degloving		
	(50) Injury - NFS		
	(90) Trauma, other than mechanical		
	<u>Head - LOC</u>		
	(02) Length of LOC		
	(04) Level		
	(06) of		
	(08) Consciousness		
	(10) Concussion		
	<u>Spine</u>		
	(02) Cervical		
	(04) Thoracic		
	(06) Lumbar		

## SOURCE OF INJURY DATA

## INJURY SOURCE

## DIRECT/INDIRECT INJURY

## CONFIDENCE LEVEL

OFFICIAL RECORDS

- (1) Autopsy records with or without hospital/medical records
- (2) Hospital/medical records other than emergency room (e.g., discharge summary)
- (3) Emergency room records only (including associated X-rays or other lab reports)
- (4) Private physician, walk-in or emergency clinic

UNOFFICIAL RECORDS

- (5) Lay coroner report
- (6) E.M.S. personnel
- (7) Interviewee
- (8) Other source (specify): \_\_\_\_\_
- (9) Police

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

- (1) Direct contact injury
- (2) Indirect contact injury
- (3) Noncontact injury
- (7) Injured, unknown source

# OFFICIAL INJURY DATA — SKELETAL INJURIES

Restrained?

☐ No

☒ Yes

Blood Alcohol  
Level (mg/dl)

BAL = \_\_\_\_

Glasgow Coma  
Scale Score

GCSS = 15  
(DS)

Units of Blood  
Given

Units = \_\_\_\_

Arterial Blood  
Gases

pH = \_\_\_\_

PO<sub>2</sub> = \_\_\_\_

PCO<sub>2</sub> = \_\_\_\_

HCO<sub>3</sub> = \_\_\_\_

• Restrained passenger (DS)

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

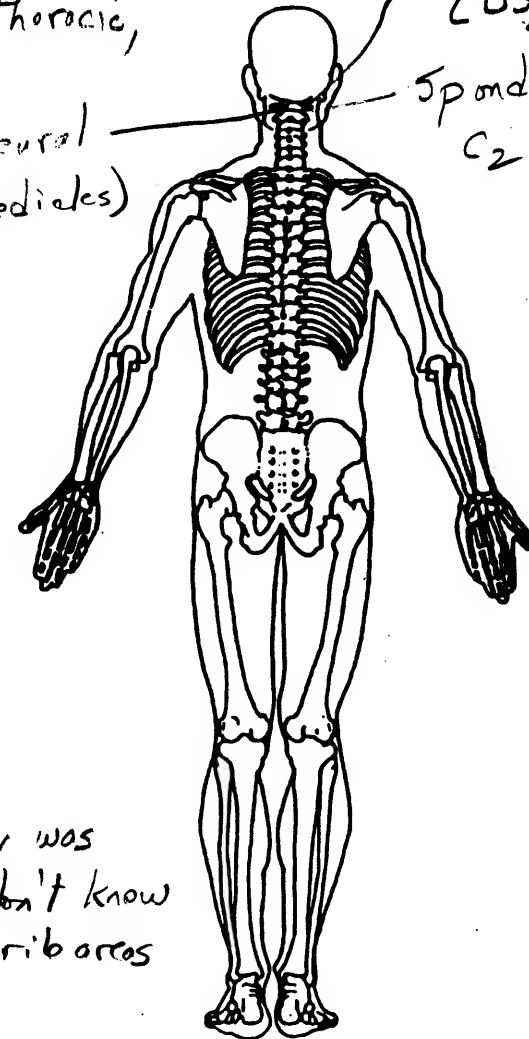
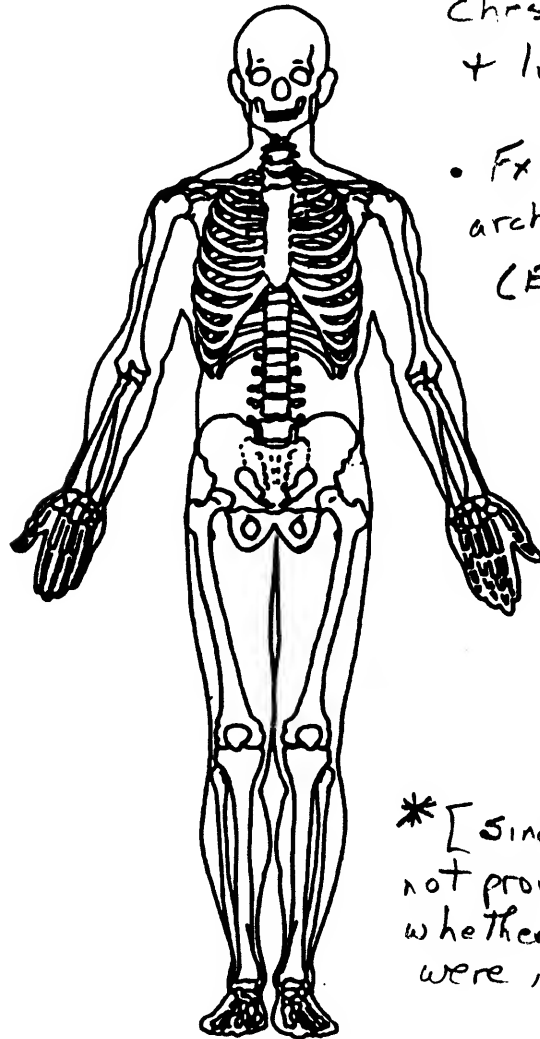
• Denies drinking or smoking (DS)

X-rays: negative  
Chest\*, pelvis, thoracic,  
+ lumbar

• Fr through neural  
arch of C<sub>2</sub> (pedicles)  
(EX, PX)

with 3mm displacement  
(DS, PX)

Spondylolisthesis  
C<sub>2</sub> (DS, PX)



\*[Since the x-ray was  
not provided, we don't know  
whether the lower rib areas  
were included.]

UPDATE SUBMISSION

## INJURY SOURCES

### FRONT

- (001) Windshield
- (002) Mirror
- (003) Sunvisor
- (004) Steering wheel rim
- (005) Steering wheel hub/spoke
- (006) Steering wheel (combination of codes 004 and 005)
- (007) Steering column, transmission selector lever, other attachment
- (008) Cellular telephone or CB radio
- (009) Add on equipment (e.g., tape deck, air conditioner)
- (010) Left instrument panel and below
- (011) Center instrument panel and below
- (012) Right instrument panel and below
- (013) Glove compartment door
- (014) Knee bolster
- (015) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (016) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
- (017) Windshield reinforced by exterior object (specify):
- (019) Other front object (specify):

### LEFT SIDE

- (051) Left side interior surface, excluding hardware or armrests
- (052) Left side hardware or armrest
- (053) Left A (A1/A2)-pillar
- (054) Left B-pillar
- (055) Other left pillar (specify):
- (056) Left side window glass
- (057) Left side window frame
- (058) Left side window sill
- (059) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (060) Other left side object (specify):

### RIGHT SIDE

- (101) Right side interior surfaces, excluding hardware or armrests

- (102) Right side hardware or armrest
- (103) Right A (A1/A2)-pillar
- (104) Right B-pillar
- (105) Other right pillar (specify):
- (106) Right side window glass
- (107) Right side window frame
- (108) Right side window sill
- (109) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (110) Other right side object (specify):

### INTERIOR

- (151) Seat, back support
- (152) Belt restraint webbing/buckle
- (153) Belt restraint B-pillar or door frame attachment point
- (154) Other restraint system component (specify):
- (155) Head restraint system
- (160) Other occupants (specify):
- (161) Interior loose objects
- (162) Child safety seat (specify):
- (163) Other interior object (specify):

### AIR BAG

- (170) Air bag-driver side
- (171) Air bag-driver side end eyewear
- (172) Air bag-driver side and jewelry
- (173) Air bag-driver side end object held
- (174) Air bag-driver side end object in mouth
- (175) Air bag compartment cover-driver side
- (176) Air bag compartment cover-driver side end eyewear
- (177) Air bag compartment cover-driver side and jewelry
- (178) Air bag compartment cover-driver side and object held
- (179) Air bag compartment cover-driver side end object in mouth
- (180) Air bag-passenger side
- (181) Air bag-passenger side and eyewear
- (182) Air bag-passenger side and jewelry

- (183) Air bag-passenger side and object held
- (184) Air bag-passenger side and object in mouth
- (185) Air bag compartment cover-passenger side
- (186) Air bag compartment cover-passenger side and eyewear
- (187) Air bag compartment cover-passenger side and jewelry
- (188) Air bag compartment cover-passenger side and object held
- (189) Air bag compartment cover-passenger side and object in mouth
- (190) Other air bag (specify)
- (195) Other air bag compartment cover (specify)

### ROOF

- (201) Front header
- (202) Rear header
- (203) Roof left side rail
- (204) Roof right side rail
- (205) Roof or convertible top
- (251) Floor (including toe pan)
- (252) Floor or console mounted transmission lever, including console
- (253) Parking brake handle
- (254) Foot controls including parking brake

### REAR

- (301) Backlight (rear window)
- (302) Backlight storage rack, door, etc.
- (303) Other rear object (specify):

### ADAPTIVE (ASSISTIVE) DRIVING EQUIPMENT

- (401) Hand controls for braking/acceleration
- (402) Steering control devices (attached to OEM steering wheel)
- (403) Steering knob attached to steering wheel
- (405) Replacement steering wheel (i.e., reduced diameter)
- (406) Joy stick steering controls
- (407) Wheelchair tie-downs
- (408) Modification to seat belts, (specify):
- (409) Additional or relocated switches, (specify):
- (410) Raised roof

- (411) Wall mounted head rest (used behind wheel chair)
- (412) Other adaptive device (specify):

### EXTERIOR of OCCUPANT'S VEHICLE

- (451) Hood
- (452) Outside hardware (e.g., outside mirror, antenna)
- (453) Other exterior surface or tires (specify):
- (454) Unknown exterior objects

### EXTERIOR OF OTHER MOTOR VEHICLE

- (501) Front bumper
- (502) Hood edge
- (503) Other front of vehicle (specify):
- (504) Hood
- (505) Hood ornament
- (506) Windshield, roof rail, A-pillar
- (507) Side surfaces
- (508) Side mirrors
- (509) Other side protrusions (specify):
- (510) Rear surfaces
- (511) Undercarriage
- (512) Tires and wheels
- (513) Other exterior of other motor vehicle (specify):
- (514) Unknown exterior of other motor vehicle

### OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT

- (551) Ground
- (598) Other vehicle or object (specify):
- (599) Unknown vehicle or object

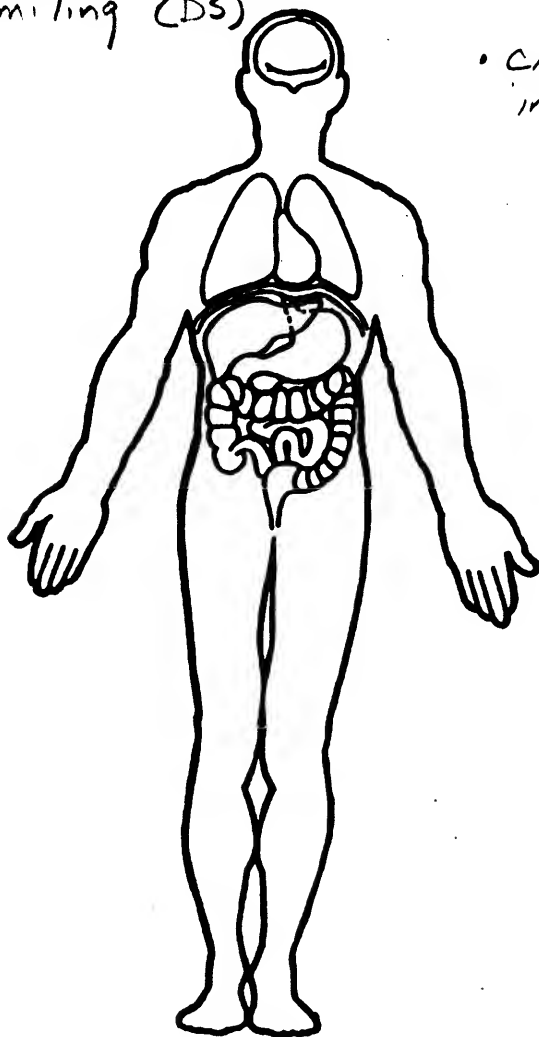
### NONCONTACT INJURY

- (601) Fire in vehicle
- (602) Flying glass
- (603) Other noncontact injury source (specify):
- (604) Air bag exhaust gases
- (697) Injured, unknown source

# OFFICIAL INJURY DATA — INTERNAL INJURIES

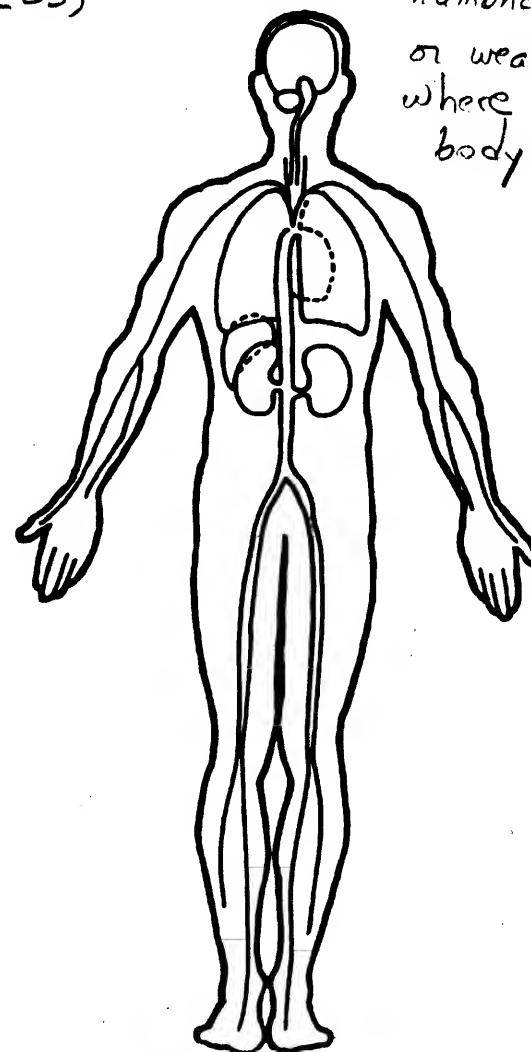
Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

• c/o nausea + one episode of vomiting (DS)



• CN II-XII intact (DS)

• No LOC, AxOx3 (DS)



• Denies numbness, tingling or weakness anywhere in her body (DS)

UPDATE SUBMISSION

## CAUSE OF DEATH

## ICD-9-CM

### OTHER DRUGS (GV16)

Specimen Test Type	Drug(s)	Drug Type
<input type="checkbox"/> Blood and urine tests <input type="checkbox"/> Blood test only <input type="checkbox"/> Urine test only <input type="checkbox"/> Other test <input type="checkbox"/> Unspecified		

### MEDICAL RECORD ABBREVIATIONS

Symbol	Record Type Description
A	Autopsy—medical information based upon an invasive examination of a body
ME	Medical examiner's record—where the information reported on the patient is based on a non-invasive examination of the body
AR	Admission record/summary—any medical information on this record should be considered as post-ER since it summarizes the patient's admission; these records are common in short hospitalizations and usually only contain: admission DX(s), final DX(s), and a listing of surgical treatments; ICD-9-CM codes are frequently available.
FS	Admission/discharge face sheet—face sheets are essentially the same as admission record/summaries and contain the same types of information as discussed above
DS	Discharge summary—shorten history of a patient's hospitalization highlighting the patient's major injuries; this record is often written from the perspective of its author which in many cases is a consultant
OS	Operative record—summary of a performed surgical operation often providing detailed information about a specific trauma; patients who survive the surgery are normally admitted; thus, this record is normally considered post-ER; however, if this record results from an outpatient surgery, then treat it as emergency-room related
FX	Radiographic records—taken after the patient has been admitted, or while in surgery or intensive care
FN	Patient progress notes—supplemental record containing additional nurses notes taken after the patient's admission
HP	History and physical exam—medical history and the results of the physical exam obtained by the emergency room physician assigned to the patient upon arrival at the emergency room
CN	Consultation record—consultations are in essence additional history and physical exams performed by doctors whose expertise was requested by the emergency room physician; the consultation may occur during the emergency room visit or after admission
ER	Emergency room report—where the author of this information is undefined
EN	Emergency room nurse—"nurse/complaint of" section on the emergency room report
ED	Emergency room doctor—"objective/physical exam" section plus "diagnosis and treatment" sections (i.e., doctor portion of emergency room report)
NN	Nurse notes—supplemental record containing additional notes taken by the emergency room nurse(s)
EX	Radiographic records—taken during the patients stay in the emergency room
CV	Coroner's verdict—statement of cause of death for legal specific regarding injuries; care must be exercised to ascertain the credentials of the verdict's author.
CR	Coroner's report—medical information based upon a noninvasive examination performed by a person who is not a doctor but who has the title of a coroner
ET	Emergency medical technician—report by a person who qualifies as an emergency medical services technician (EMS or EMT)
O	Other source—medical information based on an other source (e.g., newspaper, DVM—Doctor of Veterinary Medicine)

## HOSPITAL

NAME OF PATIENT:

UNIT #:

ROOM NUMBER:

DATE OF ADMISSION:

/95

DATE OF DISCHARGE:

/95

ATTENDING PHYSICIAN:

MD

CC:

, MD,

, MD

, MD,

, MD,

ADMISSION DIAGNOSIS:

C2 traumatic spondylolisthesis.

DISCHARGE DIAGNOSIS:

1. C2 traumatic spondylolisthesis.

2. Status post halo placement.

HISTORY OF PRESENT ILLNESS: Mrs. [REDACTED] is a 34 year old white female who was a restrained passenger in a motor vehicle accident in which extrication was required. There was no loss of consciousness. The patient had the complaint of nausea and one episode of vomiting only afterwards. She denies any numbness, tingling, or weakness anywhere in her body. She was originally evaluated at [REDACTED] and then transferred to [REDACTED] Hospital for further management.

PAST MEDICAL HISTORY: Hypertension.

PAST SURGICAL HISTORY: Cyst removed from ovary.

CURRENT MEDICATIONS: None.

ALLERGIES: Demerol.

SOCIAL HISTORY: Denies alcohol or tobacco.

PHYSICAL EXAMINATION:

VITAL SIGNS: Pulse 103, blood pressure 110/76, respiratory rate 16, temperature 98.6.

GENERAL: Alert and oriented times three, well nourished.

HEENT: Normocephalic, atraumatic. The left tympanic membrane is intact, however, the right tympanic membrane is not visualized. The pupils are equal, round and reactive to light at 2-3 mm. Extraocular movements are intact. Nose and facial bones are without deformity and there is no rhinorrhea. The oropharynx is clear.

NECK: A cervical collar is in place. The trachea is midline. There is no jugular venous distention.

CHEST: Clear to auscultation bilaterally. The breath sounds are

DISCHARGE SUMMARY  
(CONTINUED)

## HOSPITAL

UNIT #:  
PAGE 2

equal bilaterally. There is some tenderness to palpation of the left lower sternal border near the xiphoid.

HEART: Regular rate and rhythm without murmurs, clicks or rubs.

ABDOMEN: Soft, nontender, nondistended, bowel sounds present, no masses palpated.

EXTREMITIES: Full range of motion in all extremities. Small abrasions to bilateral patellae. There is a right forearm abrasion with ecchymosis, 2+ distal pulses in all four extremities.

RECTAL: Normal tone, guaiac positive, however, the patient is currently having menses.

NEUROLOGIC: Alert and oriented times three. Cranial nerves II-XII intact grossly. Motor strength in all four extremities, no sensory deficit elicited. Upper extremities have 2+ reflexes and the lower extremities have 1+ reflexes. Downgoing Babinski's bilaterally.

BACK: Nontender, no deformity, no stepoffs, atraumatic.

LABORATORY DATA: Chest x-ray - negative. Pelvic x-ray negative. Cervical spine CT scan - a C2 traumatic spondylolisthesis is noted with a 3 mm displacement. Thoracic spine - negative. Lumbar spine - negative.

HOSPITAL COURSE: The patient was admitted to the Surgical Intensive Care Unit with strict spinal precautions including cervical collar and logroll. The patient was seen by the Orthopedic Spine Service headed by [REDACTED]. On arrival in the Surgical Intensive Care Unit, a lower lip laceration which was noted on arrival but not able to be repaired at that time was repaired with three sutures of #6-0 Novafil. The patient was placed in a halo on [REDACTED] 95. There were no complications or problems with this procedure. On the 11th, the patient was moved to the Surgical Intermediate Care Unit. She was seen by physical therapy and assisted in adjusting to ambulation and activities of daily living with the halo in place. [REDACTED]'s hospital course was uncomplicated and punctuated only by persistent intermittent nausea and occasional vomiting, which apparently was related to both narcotic pain medication and anxiety. The patient was tried on more than one narcotic pain medication with nausea and vomiting persistent. Multiple antiemetics were tried, including Zofran and Phenergan, but no clear association with relief was noted. After the patient requested a special Neurosurgery Consult with [REDACTED], the patient was tried on Toradol with good pain relief and no nausea. When this was successful, the patient was discharged.

DISCHARGE INSTRUCTIONS: Discharge medications include Flexeril,

DISCHARGE SUMMARY  
(CONTINUED)



## HOSPITAL

UNIT #:

PAGE 3

10 mg p.o., t.i.d., ibuprofen, 600 mg p.o., q6h p.r.n. mild pain, Toradol, 10 mg p.o., q6h p.r.n. severe pain (do not take Toradol and ibuprofen concurrently), Phenergan, 25 mg p.r., q4h p.r.n. nausea and vomiting. Discharge diet - regular/soft. Instructions - continue pin care on halo, return to the Emergency Room for any problem, activity as tolerated, keeping in mind that the cervical spine must be kept still. Follow-up - 1. Dr. [REDACTED] at the [REDACTED] Dental Clinic, phone number available. The appointment is for [REDACTED]-95 at 1:00 p.m. 2. Dr. [REDACTED], phone number [REDACTED], please call for appointment to occur in approximately two weeks.

DICTATED BY:

REVIEWED BY:

\_\_\_\_\_  
[REDACTED] MD  
RESIDENT

\_\_\_\_\_  
[REDACTED] MD  
ATTENDING PHYSICIAN

D: [REDACTED]/95 1957

T: [REDACTED]/95

DISCHARGE SUMMARY

HOSPITAL  
TEXAS

EMERGENCY ROOM COPY

RADIOLOG  
REPORT  
FORM

PAGE 1

WP ID:

PATIENT:  
SEX: F AGE: 34 DOB:  
XR#:REFERRING MD: , MD  
PRIMARY MD:  
MR#:

EXAM DATE: 95 ROOM: OP

RQ# SS#

## - CERVICAL SPINE

Three view cervical spine was performed in the AP, lateral and open mouth view with the patient in a halo. Examination reveals fracture through the neural arch of C2 with no evidence of displacement. There is no evidence of prevertebral soft tissue swelling. Suggestion of minimal subluxation noted on the prior radiograph of 95 is no longer seen.

On the open mouth view the odontoid is somewhat obscured by the upper central incisors however fracture in the region of the lateral mass of C2, particularly on the left side is identified.

IMPRESSION: FRACTURE-THROUGH THE NEURAL ARCH OF C2 WITHOUT ANY EVIDENCE OF SUBLUXATION. THE PATIENT IS IN A HALO AND THERE IS SOME IMPROVEMENT IN THE MINIMAL DISPLACEMENT NOTED ON PRIOR EXAMINATION.

Reporting Dr: \_\_\_\_\_  
M. D.

Entered By:

Transcribed Dt/Tm: 95 10:43am  
\*\*\* END OF REPORT

HOSPITAL  
TEXAS

EMERGENCY ROOM COPY

RADIOLOG  
REPORT  
FORM

PAGE 1

WP ID:

PATIENT:  
SEX: F AGE: 34 DOB:  
XR#:REFERRING MD:  
PRIMARY MD:  
MR#:

, MD

EXAM DATE: 95 ROOM: OF

RQ#:

SS#:

C-SPINE 2 VIEWS: There is a fracture through the C2 pedicles with 3 mm  
spondylolisthesis at C2-3. A halo device is present and no change in  
positioning is seen compared the study of 95.

Reporting Dr: \_\_\_\_\_  
\_\_\_\_\_, M. D.

Entered By:

Transcribed Dt/Tm: 95 2:36pm  
\*\*\* END OF REPORT

HOSPITAL  
TEXAS

PHYSICIAN'S COPY

RADIOLO  
REPOR  
FORM

PAGE 1

WP ID:

PATIENT:  
SEX: F AGE: 35 DOB:  
XR#:REFERRING MD: , MD  
PRIMARY MD:  
MR#:

EXAM DATE: -95 ROOM: CP

RQ#: SS#:

CERVICAL SPINE SERIES INCLUDING FLEXION EXTENSION VIEWS: The patient is able do very limited flexion and extension with evidence suggestive of muscular spasm. The process of flexion extension was quite painful for the patient. Fracture of lateral mass of C2 on the left along with fracture in the region of articular facets. Slight anterolisthesis of C2 in relation to C3 is again noted without any interval change. There is no evidence of displacement or prevertebral soft tissue swelling. The odontoid process is somewhat obscured on the open-mouth view by the central maxillary incises.

IMPRESSION: NO INTERVAL CHANGE IN THE APPEARANCE OF THE FRACTURE OF C2 WITH SLIGHT ANTEROLISTHESIS. FRACTURE OF THE LATERAL MASS AND PEDICLE OF C2 ON THE LEFT. EVIDENCE OF MUSCULAR SPASM.

Reporting Dr: \_\_\_\_\_  
\_\_\_\_\_, M. D.Entered By: \_\_\_\_\_ Transcribed Dt/Tm: 95 11:37am  
\*\*\*END OF REPORT

**Appendix L:**

**NASS CDS OCCUPANT ASSESSMENT FORM:**

**VEHICLE #2 DRIVER**



# OCCUPANT ASSESSMENT FORM

1. Primary Sampling Unit Number 10  
2. Case Number - Stratum 9510  
3. Vehicle Number 02  
4. Occupant Number 01

## OCCUPANT'S CHARACTERISTICS

5. Occupant's Age 73  
Code actual age at time of accident.  
(00) Less than one year old (specify by month):  
(97) 97 years and older  
(99) Unknown *MEDICAL is wrong*

6. Occupant's Sex 1  
(1) Male  
(2) Female-not reported pregnant  
(3) Female-pregnant-1st trimester(1st-3rd month)  
(4) Female-pregnant-2nd trimester(4th-6th month)  
(5) Female-pregnant-3rd trimester(7th-9th month)  
(6) Female-pregnant-term unknown  
(9) Unknown

7. Occupant's Height 191  
Code actual height to the nearest centimeter.  
(999) Unknown  
75 inches X 2.54 = 190.5 centimeters

8. Occupant's Weight 087  
Code actual weight to the nearest kilogram.  
(999) Unknown  
191 pounds X .4536 = 86.6 kilograms

9. Occupant's Role 1  
(1) Driver  
(2) Passenger  
(9) Unknown

## OCCUPANT'S SEATING

10. Occupant's Seat Position 11  
*Front Seat*  
(11) Left side  
(12) Middle  
(13) Right side  
(14) Other (specify):  
(15) On or in the lap of another occupant

*Second Seat*  
(21) Left side  
(22) Middle  
(23) Right side  
(24) Other (specify):  
(25) On or in the lap of another occupant

*Third Seat*  
(31) Left side  
(32) Middle  
(33) Right side  
(34) Other (specify):  
(35) On or in the lap of another occupant

*Fourth Seat*  
(41) Left side  
(42) Middle  
(43) Right side  
(44) Other (specify):  
(45) On or in the lap of another occupant

(97) In or on unenclosed area  
(98) Other seat (specify):  
(99) Unknown

11. Occupant's Posture 0  
(0) Normal posture

*Abnormal posture*  
(1) Kneeling or standing on seat  
(2) Lying on or across seat  
(3) Kneeling, standing or sitting in front of seat  
(4) Sitting sideways or turned to talk with another occupant or to look out a rear window  
(5) Sitting on a console  
(6) Lying back in a reclined seat position  
(7) Bracing with feet or hands on a surface in front of seat  
(8) Other abnormal posture (specify):  
(9) Unknown

## EJECTION/ENTRAPMENT

12. Ejection 2

- (0) No ejection
- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, unknown degree
- (9) Unknown

13. Ejection Area 0

- (0) No ejection
- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear
- (7) Roof
- (8) Other area (e.g., back of pickup, etc.)  
(specify): \_\_\_\_\_
- (9) Unknown

14. Ejection Medium 0

- (0) No ejection
- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify): \_\_\_\_\_
- (5) Integral structure
- (8) Other medium (specify): \_\_\_\_\_
- (9) Unknown

15. Medium Status (Immediately Prior To Impact) 0

- (0) No ejection
- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

16. Entrapment 0

- (0) Not entrapped/exit not inhibited
- (1) Entrapped/pinned - mechanically restrained
- (2) Could not exit vehicle due to jammed doors, fire, etc.  
(specify): \_\_\_\_\_
- (9) Unknown

17. Occupant Mobility 3

- (0) Occupant fatal before removed from vehicle
- (1) Removed from vehicle while unconscious or disoriented
- (2) Removed from vehicle due to injuries
- (3) Exited vehicle with some assistance
- (4) Exited vehicle under own power
- (5) Occupant fully ejected
- (9) Unknown

## BELT SYSTEM FUNCTION

18. Manual (Active) Belt System Availability 4

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available—type unknown

*Integral Belt Partially Destroyed*

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)
- (8) Other belt (specify):

(9) Unknown

19. Manual (Active) Belt System Use 04

(00) None used, not available, or belt removed/destroyed

(01) Inoperative (specify):

- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used—type unknown
- (08) Other belt used (specify):

- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat—type unknown
- (18) Other belt used with child safety seat (specify):

(99) Unknown if belt used

20. Proper Use of Manual (Active) Belts 1

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

*Belt Used Improperly*

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify):

(8) Other improper use of manual belt system (specify):

(9) Unknown

21. Manual (Active) Belt Failure Modes During Accident 9

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):

(6) Broken retractor

(7) Combination of above (specify):

(8) Other manual belt failure (specify):

(9) Unknown

22. Shoulder Belt Upper Anchorage Adjustment 9

- (0) No shoulder belt
- (1) No upper anchorage adjustment for shoulder belt

*Adjustable shoulder Belt Upper Anchorage*

- (2) In full up position
- (3) In mid position
- (4) In full down position
- (5) Position unknown
- (9) Unknown if position has adjustable upper anchorage adjustment

23. Automatic (Passive) Belt System Availability/Function 0

- (0) Not equipped/not available
- (1) 2 point automatic belts
- (2) 3 point automatic belts
- (3) Automatic belts - type unknown

*Non-functional*

- (4) Automatic belts destroyed or rendered inoperative
- (9) Unknown

24. Automatic (Passive) Belt System Use 0

- (0) Not equipped/not available/destroyed or rendered inoperative
- (1) Automatic belt in use
- (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify):
- (3) Automatic belt use unknown
- (9) Unknown

25. Automatic (Passive) Belt System Type 0

- (0) Not equipped/not available
- (1) Non-motorized system
- (2) Motorized system
- (9) Unknown

26. Proper Use of Automatic (Passive) Belt System 0

- (0) Not equipped/not available/not used
- (1) Automatic belt used properly
- (2) Automatic belt used properly with child safety seat

*Automatic Belt Used Improperly*

- (3) Automatic shoulder belt worn under arm
- (4) Automatic shoulder belt worn behind back
- (5) Automatic belt worn around more than one person
- (6) Lap portion of automatic belt worn on abdomen
- (7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify):

(8) Other improper use of automatic belt system (specify):

(9) Unknown

27. Automatic (Passive) Belt Failure Modes During Accident 0

- (0) Not equipped/not available/not in use
- (1) No automatic belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):

(6) Broken retractor

(7) Combination of above (specify):

(8) Other automatic belt failure (specify):

(9) Unknown



## POLICE REPORTED RESTRAINT USE

28. Police Reported Belt Use 4

- (0) None used  
 (1) Police did not indicate belt use  
 (2) Shoulder belt  
 (3) Lap belt  
 (4) Lap and shoulder belt  
 (5) Belt used, type not specified  
 (6) Child safety seat  
 (7) Automatic belt  
 (8) Other type belt, (specify):  
 (9) Police indicated "unknown"

29. Police Reported Air Bag Availability/Function 3

- (0) No air bag available  
 (1) Police did not indicate air bag availability/function  
 (2) Deployed  
 (3) Not deployed  
 (4) Unknown if deployed  
 (9) Police indicated "unknown"

## Check the Primary Source Used In Determining Belt Use.

- ☐ Not equipped/not available/destroyed or rendered inoperative  
☒ Vehicle inspection  
☒ Official injury data  
☐ Driver/occupant interview  
☐ Other (specify):  
☐ Unknown if belt used

## AIR BAG SYSTEM FUNCTION

30. Frontal Air Bag System Availability/Function (This Occupant Position) 0

- (0) Not equipped/not available  
 (1) Air bag

*Non-functional*

- (2) Air bag disconnected (specify):  
 (3) Air bag not reinstalled  
 (9) Unknown

31. Frontal Air Bag System Deployment (This Occupant Position) 0

- (0) Not equipped/not available  
 (1) Deployed during accident (as a result of impact)  
 (2) Deployed inadvertently just prior to accident  
 (3) Deployed, details unknown  
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)  
 (5) Unknown if deployed  
 (7) Nondeployed  
 (9) Unknown

32. Other Than First Seat Frontal Air Bag Availability/Function (This Occupant Position) 0

- (0) Not equipped/not available  
 (1) Air bag

*Non-functional*

- (2) Air bag disconnected (specify):

- (3) Air bag not reinstalled  
 (9) Unknown

Specify type of "other" air bag present:

33. Air Bag(s) Deployment, Other Than First Seat Frontal (This Occupant Position) 0

- (0) Not equipped with an "other" air bag  
 (1) Deployed during accident (as a result of impact)  
 (2) Deployed inadvertently just prior to accident  
 (3) Deployed, details unknown  
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)  
 (5) Unknown if deployed  
 (7) Nondeployed  
 (9) Unknown

34. Are There Indications of Air Bag System Failure? (This Occupant Position) 0

- (0) Not equipped/not available  
 (1) No  
 (2) Yes (specify):  
 (9) Unknown

## FIRST SEAT FRONTAL AIR BAG SYSTEM EVALUATION

35. Had Vehicle Been in Previous Accident(s)? 0

- (0) Not equipped/not available  
(1) No previous accidents

Yes

- (2) Previous accident(s) without deployment(s)  
(3) One previous accident with deployment  
(4) More than one previous accident with at least one deployment  
(8) Previous accidents, unknown deployment status  
(9) Unknown

36. Type of Air Bag 0

- (0) Not equipped/not available  
(1) Original manufacturer installed system  
(2) Retrofitted air bag  
(3) Replacement air bag  
(8) Unknown type of air bag  
(9) Unknown

37. Had Any Prior Maintenance/Service Been Performed On This Air Bag System? 0

- (0) Not equipped/not available  
(1) No prior maintenance  
(2) Yes, prior maintenance (specify):  
(9) Unknown

38. Air Bag Deployment Accident Event Sequence Number 00

- (00) Not equipped/not available  
Code the accident event sequence number that initiated the air bag deployment  
(96) Deployed, unknown event  
(97) Not deployed  
(98) Unknown if deployed  
(99) Unknown

39. CDC For Air Bag Deployment Impact 0

- (0) Not equipped/not available  
(1) Highest delta V  
(2) Second highest delta V  
(3) Other non-coded delta V (specify):  
(6) Deployed, unknown event  
(7) Not deployed  
(8) Unknown if deployed  
(9) Unknown

40. Longitudinal Component of +Delta V For Air Bag - 0 0 0

Deployment Impact

(\_000) Not equipped/not available

Code the value of the delta V for the impact that initiated the air bag deployment

(\_996) Deployment, unknown longitudinal Delta V

(\_997) Not deployed

(\_998) Unknown if deployed

(\_999) Unknown

41. Did Air Bag Module Cover Flap(s) Open At Designated Tear Points? 0

- (0) Not equipped/not available  
(1) No  
(2) Yes  
(3) Deployed, unknown if flap(s) opened at designated tear points  
(7) Not deployed  
(8) Unknown if deployed  
(9) Unknown

42. Were Air Bag Module Cover Flap(s) Damaged? 0

- (0) Not equipped/not available  
(1) No  
(2) Yes (specify):  
(3) Deployed, unknown if air bag module cover flap(s) damaged  
(7) Not deployed  
(8) Unknown if deployed  
(9) Unknown

43. Was There Damage To The Air Bag? 0 0

- (00) Not equipped/not available  
(01) Not damaged

Yes - Air Bag Damage

- (02) Ruptured  
(03) Cut  
(04) Torn  
(05) Holed  
(06) Burned  
(07) Abraded  
(88) Other damage (specify):  
(95) Damaged, details unknown  
(96) Deployed, unknown if damaged  
(97) Not deployed  
(98) Unknown if deployed  
(99) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM  
EVALUATION *continued*

## HEAD RESTRAINT AND SEAT EVALUATION

44. Source of Air Bag Damage 00

(00) Not equipped/not available

(01) Not damaged

(02) Object worn by occupant, (specify):

(03) Object carried by occupant, (specify):

(04) Adaptive/assistive controls, (specify):

(05) Fire in vehicle

(06) Thermal burns

(07) Rescue or emergency efforts

(88) Other damage source (specify):

(95) Damaged, unknown source

(96) Deployed, unknown if damaged

(97) Not deployed

(98) Unknown if deployed

(99) Unknown

45. Was The Air Bag Tethered? 0

(0) Not equipped/not available

(1) No

(2) Yes (specify number of tether straps):

(3) Deployed, unknown if tethered

(7) Not deployed

(8) Unknown if deployed

(9) Unknown

46. Did The Air Bag Have Vent Ports? 0

(0) Not equipped/not available

(1) No

(2) Yes (specify number of vent ports):

(3) Deployed, unknown if vent ports present

(7) Not deployed

(8) Unknown if deployed

(9) Unknown

47. Was the Air Bag in this Occupant's Position  
Contacted by Another Occupant? 0

(0) Not equipped/not available

(1) No

(2) Yes (specify):

(3) Deployed, unknown if other occupant contact  
to air bag

(7) Not deployed

(8) Unknown if deployed

(9) Unknown

48. Was This Occupant Wearing Eye-wear? 0

(0) Not equipped/not available

(1) No

(2) Eyeglasses/sunglasses

(3) Contact lenses

(4) Deployed, unknown if eyewear worn

(7) Not deployed

(8) Unknown if deployed

(9) Unknown

49. Head Restraint Type/Damage by Occupant  
at This Occupant Position 9

(0) No head restraints

(1) Integral—no damage

(2) Integral—damaged during accident

(3) Adjustable—no damage

(4) Adjustable—damaged during accident

(5) Add-on—no damage

(6) Add-on—damaged during accident

(8) Other (specify):

(9) Unknown

50. Seat Type (this Occupant Position) 99

(00) Occupant not seated or no seat

(01) Bucket

(02) Bucket with folding back

(03) Bench

(04) Bench with separate back cushions

(05) Bench with folding back(s)

(06) Split bench with separate back cushions

(07) Split bench with folding back(s)

(08) Pedestal (i.e., column supported)

(09) Box mounted seat (i.e., van type)

(10) Other seat type (specify):

(99) Unknown

51. Seat Orientation (this Occupant Position) 9

(0) Occupant not seated or no seat

(1) Forward facing seat

(2) Rear facing seat

(3) Side facing seat (inward)

(4) Side facing seat (outward)

(8) Other (specify):

(9) Unknown

52. Seat Track Adjusted Position Prior To Impact 3

(0) Occupant not seated or no seat

(1) Non-adjustable seat track

*Adjustable Seat Track*

(2) Seat at forward most track position

(3) Seat between forward most and middle track  
positions

(4) Seat at middle track position

(5) Seat between middle and rear most track  
positions

(6) Seat at rear most track position

(9) Unknown

## CHILD SAFETY SEAT

55. Child Safety Seat Make/Model 000  
 (000) No child safety seat  
 Applicable codes are found in your NASS CDS  
 Data Collection, Coding and Editing  
 (950) Built-in child safety seat  
 (997) Other make/model (specify):

(998) Unknown make/model  
 (999) Unknown if child safety seat used

56. Type of Child Safety Seat 0  
 (0) No child safety seat  
 (1) Infant seat  
 (2) Toddler seat  
 (3) Convertible seat  
 (4) Booster seat - with shield  
 (5) Booster seat - without shield  
 (7) Other type child safety seat (specify):  
 (8) Unknown child safety seat type  
 (9) Unknown if child safety seat used

57. Child Safety Seat Orientation 00  
 (00) No child safety seat

*Designed for Rear Facing for This Age/Weight*

- (01) Rear facing  
 (02) Forward facing  
 (08) Other orientation (specify):

(09) Unknown orientation

*Designed For Forward Facing for This Age/Weight*

- (11) Rear facing  
 (12) Forward facing  
 (18) Other orientation (specify):

(19) Unknown orientation

*Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight*

- (21) Rear facing  
 (22) Forward facing  
 (28) Other orientation (specify):

(29) Unknown orientation

(99) Unknown if child safety seat used

58. Child Safety Seat Harness Usage 00

59. Child Safety Seat Shield Usage 00

60. Child Safety Seat Tether Usage 00

Note: Options below applicable to  
 Variables OA58-OA60.

(00) No child safety seat

*Not Designed With Harness/Shield/Tether*

- (01) After market harness/shield/tether  
 added, not used  
 (02) After market harness/shield/tether used  
 (03) Child safety seat used, but no after market  
 harness/shield/tether added  
 (09) Unknown if harness/shield/tether  
 added or used

*Designed With Harness/Shield/Tether*

- (11) Harness/shield/tether not used  
 (12) Harness/shield/tether used  
 (19) Unknown if harness/shield/tether used

*Unknown If Designed With Harness/Shield/Tether*

- (21) Harness/shield/tether not used  
 (22) Harness/shield/tether used  
 (29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

HEAD RESTRAINT AND SEAT EVALUATION *continued*53. Seat Back Incline Prior and Post Impact 23

- (00) Occupant not seated or no seat  
 (01) Not adjustable

*Upright prior to impact*

- (11) Moved to completely rearward position  
 (12) Moved to rearward midrange position  
 (13) Moved to slightly rearward position  
 (14) Retained pre-impact position  
 (15) Moved to slightly forward position  
 (16) Moved to forward midrange position  
 (17) Moved to completely forward position

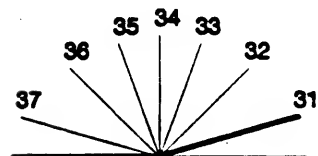
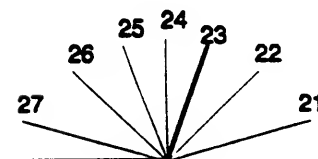
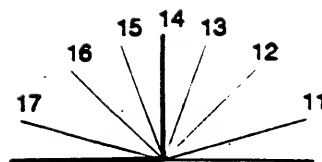
*Slightly reclined prior to impact*

- (21) Moved to completely rearward position  
 (22) Moved to rearward midrange position  
 (23) Retained pre-impact position  
 (24) Moved to upright position  
 (25) Moved to slightly forward position  
 (26) Moved to forward midrange position  
 (27) Moved to completely forward position

*Completely reclined prior to impact*

- (31) Retained pre-impact position  
 (32) Moved to rearward midrange position  
 (33) Moved to slightly rearward position  
 (34) Moved to upright position  
 (35) Moved to slightly forward position  
 (36) Moved to forward midrange position  
 (37) Moved to completely forward position

- (99) Unknown

54. Seat Performance (this Occupant Position) 9

- (0) Occupant not seated or no seat  
 (1) No seat performance failure(s)  
 (2) Seat adjusters failed  
 (3) Seat back folding locks or "seat back" failed (specify): \_\_\_\_\_  
 (4) Seat track/anchors failed  
 (5) Deformed by impact of occupant  
 (6) Deformed by passenger compartment intrusion, (specify): \_\_\_\_\_  
 (7) Combination of above (specify): \_\_\_\_\_  
 (8) Other (specify): \_\_\_\_\_  
 (9) Unknown

**INJURY CONSEQUENCES****61. Injury Severity (Police Rating)** 2

- (0) O - No injury
- (1) C - Possible injury
- (2) B - Nonincapacitating injury
- (3) A - Incapacitating injury
- (4) K - Killed
- (5) U - Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

**62. Treatment - Mortality** 4

- (0) No treatment
- (1) Fatal
- (2) Fatal - ruled disease (specify):  
\_\_\_\_\_

*Nonfatal*

- (3) Hospitalization
- (4) Transported and released
- (5) Treatment at scene - nontransported
- (6) Treatment later
- (7) Treatment - other (specify):  
\_\_\_\_\_
- (8) Transported to a medical facility-unknown if treated
- (9) Unknown

**63. Type Of Medical Facility (for Initial Treatment)** 2

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):  
\_\_\_\_\_
- (9) Unknown

**64. Hospital Stay** 00

- (00) Not Hospitalized  
Code the number of days (up through 60)  
that the occupant stayed in hospital.
- (61) 61 days or more
- (99) Unknown

**65. Working Days Lost** 97

- Code the number of days  
(up through 60) that the occupant  
lost from work due to the accident
- (00) No working days lost
- (61) 61 days or more
- (62) Fatally injured
- (97) Not working prior to accident
- (99) Unknown

**STOP WORK HERE****VARIABLES 66-74****TO BE CODED BY THE ZONE CENTER**

**TO BE CODED BY THE ZONE CENTER****INJURY CONSEQUENCES****66. Time to Death**

Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)

- (00) Not fatal  
(96) Fatal - ruled disease  
(99) Unknown

**67. 1st Medically Reported Cause of Death****68. 2nd Medically Reported Cause of Death****69. 3rd Medically Reported Cause of Death**

Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death

- (00) Not fatal or no additional causes  
(96) Mode of death given but specific injuries are not linked to cause of death. (specify):

(97) Other result (includes fatal ruled disease) (specify):

(99) Unknown

**70. Number of Recorded Injuries for This Occupant**

Code the actual number of injuries recorded for this occupant.

- (00) No recorded injuries  
(97) Injured, details unknown  
(99) Unknown if injured

**TRAUMA DATA****71. Glasgow Coma Scale (GCS) Score (at Medical Facility)**

- (00) Not injured  
(01) Injured - not treated at medical facility  
(02) No GCS Score at medical facility  
(03-15) Code the actual value of the initial GCS Score recorded at medical facility.  
(97) Injured, details unknown  
(99) Unknown if injured

**72. Was the Occupant Given Blood?**

- (1) No - blood not given  
(2) Yes - blood given  
(specify units):  
(9) Unknown if blood given

**73. Arterial Blood Gases (ABG) - HCO<sub>3</sub>**

- (00) Not injured  
(01) Injured, ABGs not measured or reported  
(02-50) Code the actual value of the HCO<sub>3</sub>  
(96) ABGs reported, HCO<sub>3</sub> unknown  
(97) Injured, details unknown  
(99) Unknown if injured

**BELT USE DETERMINATION****74. Primary Source of Belt Use Determination**

- (0) Not equipped/not available/destroyed or rendered inoperative  
(1) Vehicle inspection  
(2) Official injury data  
(3) Driver/occupant interview  
(8) Other (specify):  
(9) Unknown if belt used

**Appendix M:**

**NASS CDS OCCUPANT INJURY FORM:**

**VEHICLE #2 DRIVER**





U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

# OCCUPANT INJURY FORM

Form Approved  
O.M.B. No. 2127-0021

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number <u>10</u> 2. Case Number - Stratum <u>9510</u>	3. Vehicle Number <u>02</u> 4. Occupant Number <u>01</u>
---	---

INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

Source of Injury Data	A.I.S. - 90						Injury Source	Injury Confidence Level	Direct/Indirect Injury	Occupant Area Intrusion Number	
	Body Region	Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury	A.I.S. Severity	Aspect					
Laceration under 1st eye (D)	5. <u>7</u>	6. <u>2</u>	7. <u>9</u>	8. <u>06</u>	9. <u>00</u>	10. <u>1</u>	11. <u>2</u>	12. <u>602</u>	13. <u>3</u>	14. <u>3</u>	15. <u>00</u>
Contusion 2nd shoulder (R)	16. <u>7</u>	17. <u>7</u>	18. <u>9</u>	19. <u>04</u>	20. <u>02</u>	21. <u>1</u>	22. <u>1</u>	23. <u>152</u>	24. <u>2</u>	25. <u>1</u>	26. <u>00</u>
Contusion 3rd Hip (D)	27. <u>7</u>	28. <u>8</u>	29. <u>9</u>	30. <u>04</u>	31. <u>02</u>	32. <u>1</u>	33. <u>2</u>	34. <u>152</u>	35. <u>2</u>	36. <u>1</u>	37. <u>00</u>
4th	38. ____	39. ____	40. ____	41. ____	42. ____	43. ____	44. ____	45. ____	46. ____	47. ____	48. ____
5th	49. ____	50. ____	51. ____	52. ____	53. ____	54. ____	55. ____	56. ____	57. ____	58. ____	59. ____
6th	60. ____	61. ____	62. ____	63. ____	64. ____	65. ____	66. ____	67. ____	68. ____	69. ____	70. ____
7th	71. ____	72. ____	73. ____	74. ____	75. ____	76. ____	77. ____	78. ____	79. ____	80. ____	81. ____
8th	82. ____	83. ____	84. ____	85. ____	86. ____	87. ____	88. ____	89. ____	90. ____	91. ____	92. ____
9th	93. ____	94. ____	95. ____	96. ____	97. ____	98. ____	99. ____	100. ____	101. ____	102. ____	103. ____
10th	104. ____	105. ____	106. ____	107. ____	108. ____	109. ____	110. ____	111. ____	112. ____	113. ____	114. ____

### OCCUPANT INJURY DATA

	Source of Injury Data	Body Region	Type of Anatomic Structure	A.I.S. - 90			Aspect	Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion Number
				Specific Anatomic Structure	Level of Injury	A.I.S. Severity					
11th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
12th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
13th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
14th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
15th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
16th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
17th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
18th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
19th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
20th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
21st	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
22nd	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
23rd	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
24th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
25th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —

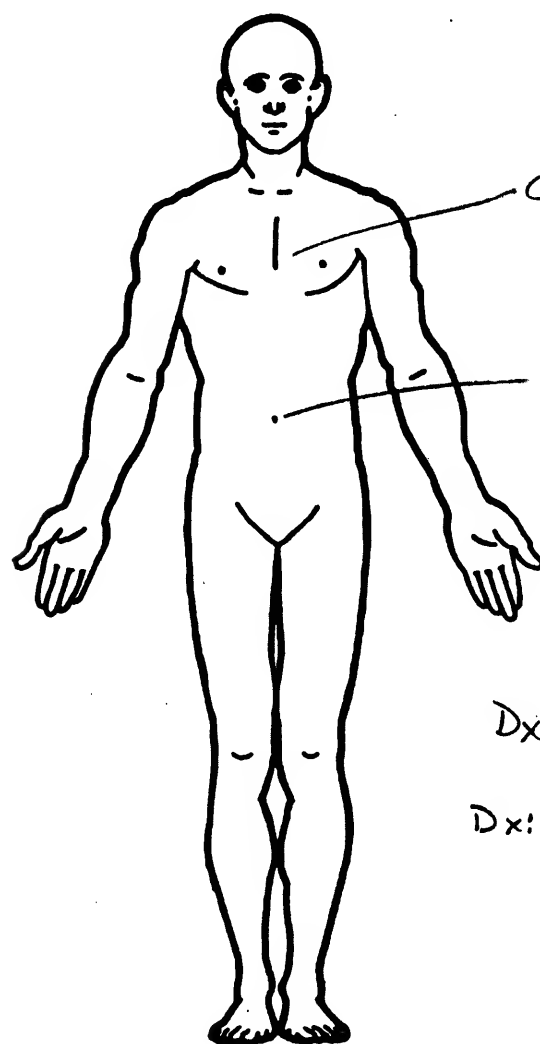
74 inches 185 pounds

# OFFICIAL INJURY DATA — SOFT TISSUE INJURIES

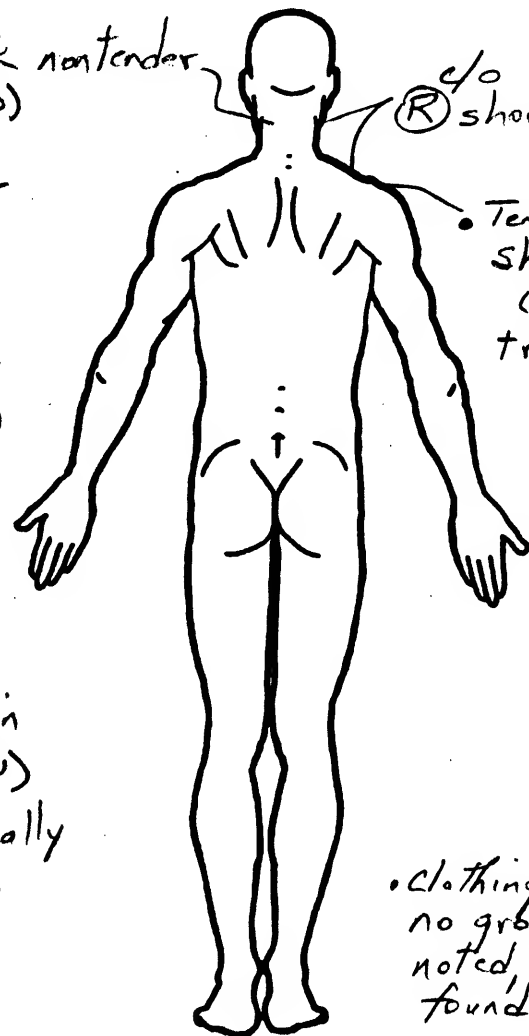
• Ambulatory @ Scene (ED)

• Driver in MVA (ED)

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)



• Neck nontender (ED)



Dx: Alteration in comfort (EN)  
Dx: C-spine clinically benign (ED)

## OCCUPANT INJURY CLASSIFICATION

Body Region	Specific Anatomic Structure	Level of Injury	Aspect
(1) Head		Specific injuries are assigned consecutive two-digit numbers beginning with 02.	(1) Right
(2) Face			(2) Left
(3) Neck	<u>Vessels, Nerves, Organs.</u>		(3) Bilateral
(4) Thorax	<u>Bones, Joints</u> are assigned consecutive two digit numbers beginning with 02.		(4) Central
(5) Abdomen		To the extent possible, within the organizational framework of the AIS, 00 is assigned to an injury NFS as to severity or where only one injury is given in the dictionary for that anatomic structure. 99 is assigned to any injury NFS as to lesion or severity.	(5) Anterior
(6) Spine			(6) Posterior
(7) Upper Extremity			(7) Superior
(8) Lower Extremity			(8) Inferior
(9) Unspecified	The exceptions to this rule apply to:		(9) Unknown
			(0) Whole region
<b>Type of Anatomic Structure</b>	<u>Whole Area</u>		
(1) Whole Area	(02) Skin - Abrasion		
(2) Vessels	(04) Skin - Contusion		
(3) Nerves	(06) Skin - Laceration		
(4) Organs (includes Muscles/ligaments)	(08) Skin - Avulsion		
(5) Skeletal (includes joints)	(10) Amputation		
(6) Head - LOC	(20) Burn		
(9) Skin	(30) Crush		
	(40) Degloving		
	(50) Injury - NFS		
	(90) Trauma, other than mechanical		
	<u>Head - LOC</u>		
	(02) Length of LOC		
	(04) Level		
	(06) of		
	(08) Consciousness		
	(10) Concussion		
	<u>Spine</u>		
	(02) Cervical		
	(04) Thoracic		
	(06) Lumbar		
		<b>Abbreviated Injury Scale</b>	
		(1) Minor Injury	
		(2) Moderate Injury	
		(3) Serious Injury	
		(4) Severe Injury	
		(5) Critical Injury	
		(6) Maximum (untreatable)	
		(7) Injured, unknown severity	

## SOURCE OF INJURY DATA

## INJURY SOURCE

## DIRECT/INDIRECT INJURY

## CONFIDENCE LEVEL

OFFICIAL RECORDS

- (1) Autopsy records with or without hospital/medical records
- (2) Hospital/medical records other than emergency room (e.g., discharge summary)
- (3) Emergency room records only (including associated X-rays or other lab reports)
- (4) Private physician, walk-in or emergency clinic

UNOFFICIAL RECORDS

- (5) Lay coroner report
- (6) E.M.S. personnel
- (7) Interviewee
- (8) Other source (specify):
- (9) Police

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

- (1) Direct contact injury
- (2) Indirect contact injury
- (3) Noncontact injury
- (7) Injured, unknown source

# OFFICIAL INJURY DATA — SKELETAL INJURIES

Restrained?

☐ No  
☒ Yes

Blood Alcohol  
Level (mg/dl)

BAL = \_\_\_\_

Glasgow Coma  
Scale Score

GCSS = 15  
(EN)

Units of Blood  
Given

Units = \_\_\_\_

Arterial Blood  
Gases

pH = \_\_\_\_

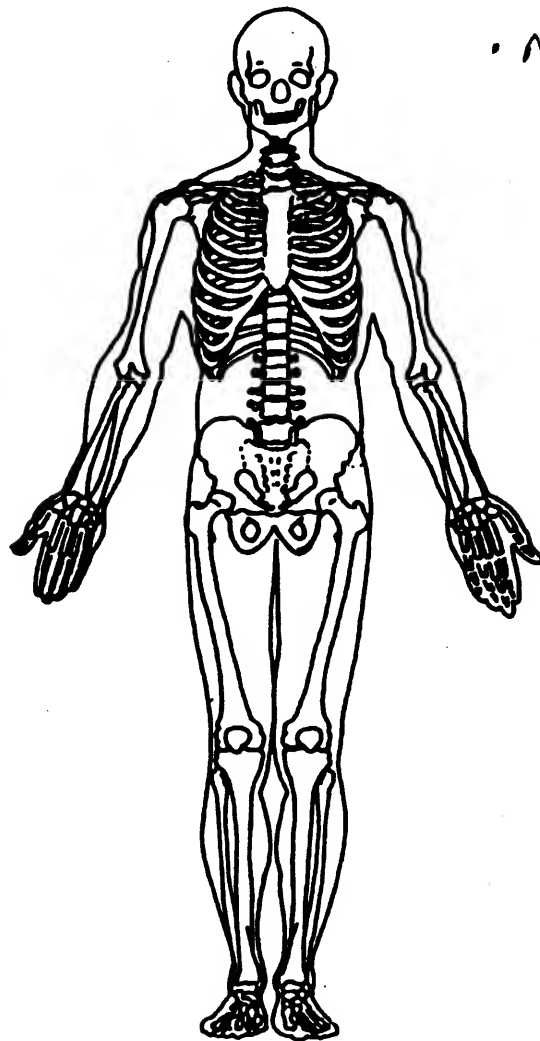
PO<sub>2</sub> = \_\_\_\_

PCO<sub>2</sub> = \_\_\_\_

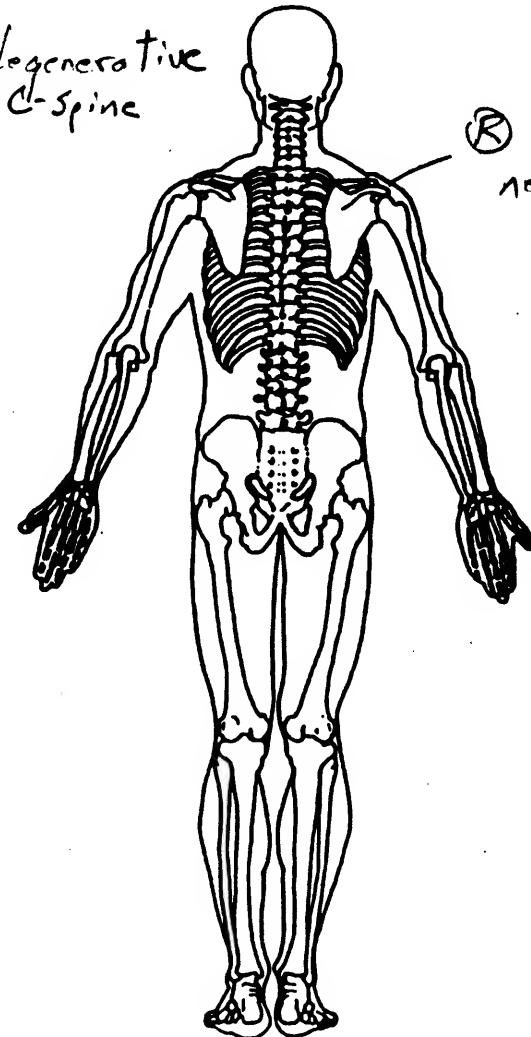
HCO<sub>3</sub> = \_\_\_\_

⊕ Seatbelt (ED)

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)



• Moderate degenerative  
changes in C-spine  
(EX)



⊗ shoulders:  
negative  
(EX)

## INJURY SOURCES

### FRONT

- (001) Windshield
- (002) Mirror
- (003) Sunvisor
- (004) Steering wheel rim
- (005) Steering wheel hub/spoke
- (006) Steering wheel (combination of codes 004 and 005)
- (007) Steering column, transmission selector lever, other attachment
- (008) Cellular telephones or CB radio
- (009) Add on equipment (e.g., tape deck, air conditioner)
- (010) Left instrument panel and below
- (011) Center instrument panel and below
- (012) Right instrument panel and below
- (013) Glove compartment door
- (014) Knee bolster
- (015) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (016) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
- (017) Windshield reinforced by exterior object (specify): \_\_\_\_\_
- (019) Other front object (specify): \_\_\_\_\_

### LEFT SIDE

- (051) Left side interior surface, excluding hardware or armrests
- (052) Left side hardware or armrest
- (053) Left A (A1/A2)-pillar
- (054) Left B-pillar
- (055) Other left pillar (specify): \_\_\_\_\_
- (056) Left side window glass
- (057) Left side window frame
- (058) Left side window sill
- (059) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (060) Other left side object (specify): \_\_\_\_\_

### RIGHT SIDE

- (101) Right side interior surface, excluding hardware or armrests

- (102) Right side hardware or armrest
- (103) Right A (A1/A2)-pillar
- (104) Right B-pillar
- (105) Other right pillar (specify): \_\_\_\_\_
- (106) Right side window glass
- (107) Right side window frame
- (108) Right side window sill
- (109) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (110) Other right side object (specify): \_\_\_\_\_

### INTERIOR

- (151) Seat, back support
- (152) Belt restraint webbing/buckle
- (153) Belt restraint B-pillar or door frame attachment point
- (154) Other restraint system component (specify): \_\_\_\_\_
- (155) Head restraint system
- (160) Other occupants (specify): \_\_\_\_\_
- (161) Interior loose objects
- (162) Child safety seat (specify): \_\_\_\_\_
- (163) Other interior object (specify): \_\_\_\_\_

### AIR BAG

- (170) Air bag-driver side
- (171) Air bag-driver side and eyewear
- (172) Air bag-driver side and jewelry
- (173) Air bag-driver side and object held
- (174) Air bag-driver side and object in mouth
- (175) Air bag compartment cover-driver side
- (176) Air bag compartment cover-driver side and eyewear
- (177) Air bag compartment cover-driver side and jewelry
- (178) Air bag compartment cover-driver side and object held
- (179) Air bag compartment cover-driver side and object in mouth
- (180) Air bag-passenger side
- (181) Air bag-passenger side and eyewear
- (182) Air bag-passenger side and jewelry

- (183) Air bag-passenger side and object held
- (184) Air bag-passenger side and object in mouth
- (185) Air bag compartment cover-passenger side
- (186) Air bag compartment cover-passenger side and eyewear
- (187) Air bag compartment cover-passenger side and jewelry
- (188) Air bag compartment cover-passenger side and object held
- (189) Air bag compartment cover-passenger side and object in mouth
- (190) Other air bag (specify): \_\_\_\_\_
- (195) Other air bag compartment cover (specify): \_\_\_\_\_

### ROOF

- (201) Front header
- (202) Rear header
- (203) Roof left side rail
- (204) Roof right side rail
- (205) Roof or convertible top

### FLOOR

- (251) Floor (including toe pan)
- (252) Floor or console mounted transmission lever, including console
- (253) Parking brake handle
- (254) Foot controls including parking brake

### REAR

- (301) Backlight (rear window)
- (302) Backlight storage rack, door, etc.
- (303) Other rear object (specify): \_\_\_\_\_

### ADAPTIVE (ASSISTIVE) DRIVING EQUIPMENT

- (401) Hand controls for braking/acceleration
- (402) Steering control devices (attached to OEM steering wheel)
- (403) Steering knob attached to steering wheel
- (405) Replacement steering wheel (i.e., reduced diameter)
- (406) Joy stick steering controls
- (407) Wheelchair tie-downs
- (408) Modification to seat belts, (specify): \_\_\_\_\_
- (409) Additional or relocated switches, (specify): \_\_\_\_\_
- (410) Raised roof

- (411) Wall mounted head rest (used behind wheel chair)
- (412) Other adaptive devices (specify): \_\_\_\_\_

### EXTERIOR OF OCCUPANT'S VEHICLE

- (451) Hood
- (452) Outside hardware (e.g., outside mirror, antenna)
- (453) Other exterior surface or tire (specify): \_\_\_\_\_
- (454) Unknown exterior objects

### EXTERIOR OF OTHER MOTOR VEHICLE

- (501) Front bumper
- (502) Hood edge
- (503) Other front of vehicle (specify): \_\_\_\_\_
- (504) Hood
- (505) Hood ornament
- (506) Windshield, roof rail, A-pillar
- (507) Side surfaces
- (508) Side mirrors
- (509) Other side protrusions (specify): \_\_\_\_\_
- (510) Rear surface
- (511) Undercarriage
- (512) Tires and wheels
- (513) Other exterior of other motor vehicle (specify): \_\_\_\_\_
- (514) Unknown exterior of other motor vehicle

### OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT

- (551) Ground
- (598) Other vehicle or object (specify): \_\_\_\_\_
- (599) Unknown vehicle or object

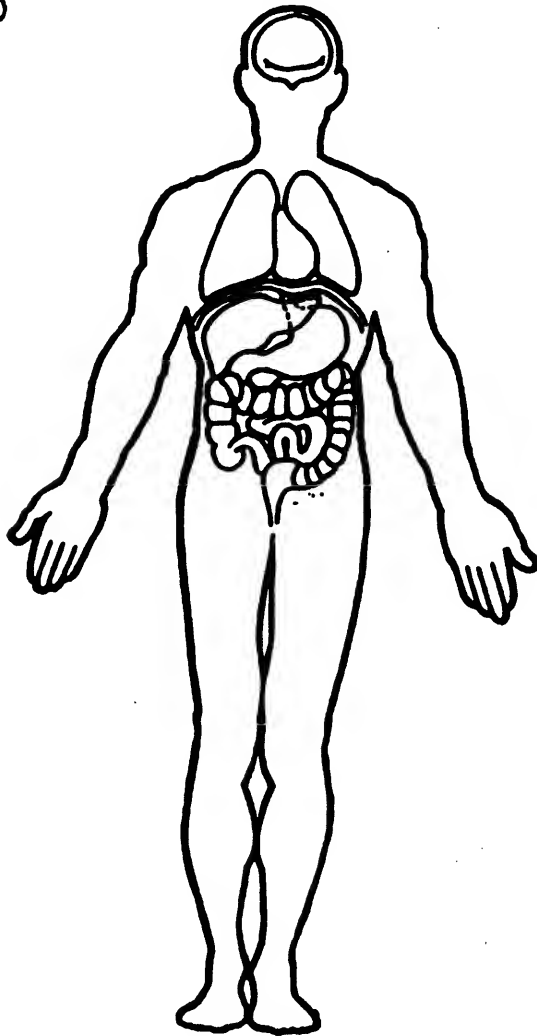
### NONCONTACT INJURY

- (601) Fire in vehicle
- (602) Flying glass
- (603) Other noncontact injury source (specify): \_\_\_\_\_
- (604) Air bag exhaust gases
- (697) Injured, unknown source

## OFFICIAL INJURY DATA — INTERNAL INJURIES

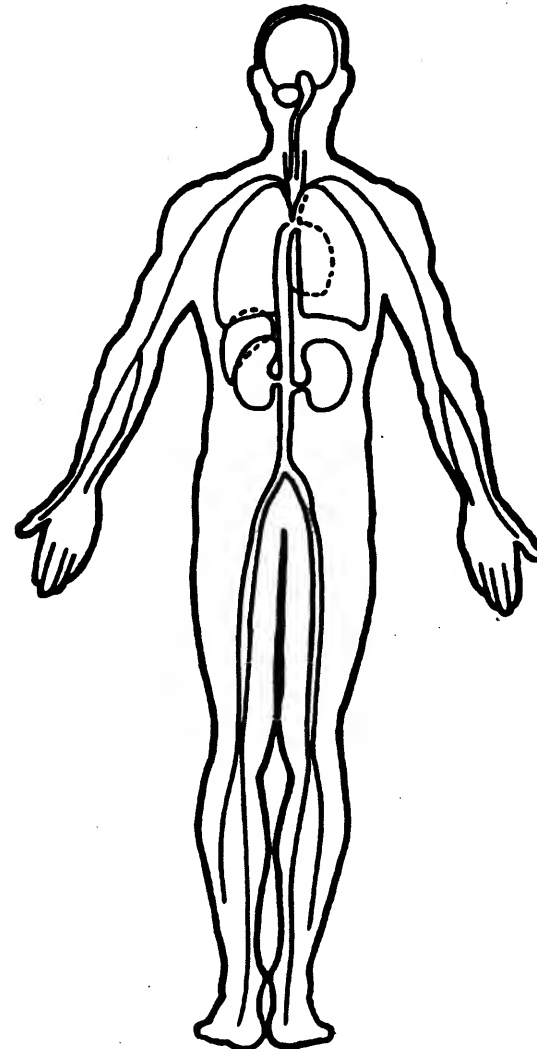
Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

• Denies blurred vision  
(ED)



Denies LOC, A x O x 3  
(EN)

⊖ LOC  
(ED)



## CAUSE OF DEATH

## ICD-9-CM

### OTHER DRUGS (GV16)

Specimen Test Type	Drug(s)	Drug Type
<input type="checkbox"/> Blood and urine tests <input type="checkbox"/> Blood test only <input type="checkbox"/> Urine test only <input type="checkbox"/> Other test <input type="checkbox"/> Unspecified		

### MEDICAL RECORD ABBREVIATIONS

Symbol	Record Type Description
A	Autopsy—medical information based upon an invasive examination of a body
ME	Medical examiner's record—where the information reported on the patient is based on a non-invasive examination of the body
AR	Admission record/summary—any medical information on this record should be considered as post-ER since it summarizes the patient's admission; these records are common in short hospitalizations and usually only contain: admission DX(s), final DX(s), and a listing of surgical treatments; ICD-9-CM codes are frequently available.
FS	Admission/discharge face sheet—face sheets are essentially the same as admission record/summaries and contain the same types of information as discussed above
DS	Discharge summary—shorten history of a patient's hospitalization highlighting the patient's major injuries; this record is often written from the perspective of its author which in many cases is a consultant
OS	Operative record—summary of a performed surgical operation often providing detailed information about a specific trauma; patients who survive the surgery are normally admitted; thus, this record is normally considered post-ER; however, if this record results from an outpatient surgery, then treat it as emergency-room related
FX	Radiographic records—taken after the patient has been admitted, or while in surgery or intensive care
FN	Patient progress notes—supplemental record containing additional nurses notes taken after the patient's admission
HP	History and physical exam—medical history and the results of the physical exam obtained by the emergency room physician assigned to the patient upon arrival at the emergency room
CN	Consultation record—consultations are in essence additional history and physical exams performed by doctors whose expertise was requested by the emergency room physician; the consultation may occur during the emergency room visit or after admission
ER	Emergency room report—where the author of this information is undefined
EN	Emergency room nurse—"nurse/complaint of" section on the emergency room report
ED	Emergency room doctor—"objective/physical exam" section plus "diagnosis and treatment" sections (i.e., doctor portion of emergency room report)
NN	Nurse notes—supplemental record containing additional notes taken by the emergency room nurse(s)
EX	Radiographic records—taken during the patients stay in the emergency room
CV	Coroner's verdict—statement of cause of death for legal specific regarding injuries; care must be exercised to ascertain the credentials of the verdict's author.
CR	Coroner's report—medical information based upon a noninvasive examination performed by a person who is not a doctor but who has the title of a coroner
ET	Emergency medical technician—report by a person who qualifies as an emergency medical services technician (EMS or EMT)
O	Other source—medical information based on an other source (e.g., newspaper, DVM—Doctor of Veterinary Medicine)





PHYSICIANS ORDERS		TIME INITIAL	TIME INITIAL	TIME INITIAL
FKG - GLUCAGON FOR FNUH				
C-SPINE (R) SCAPULA		2350		
FKG -		2330		
DIAGNOSIS			DISPOSITION	
FNUH - C-SPINE CLINICALLY BENIGN.			Home DR	
			WHERE Home.	
			HOW RA	
			WITH WHOM wife	
REFERRED TO DOCTOR	RECOMMENDED DATE	CONDITION AT DISCHARGE		
[REDACTED]	1 AM	GOOD		
BY PHYSICIAN SIGNATURE	NURSES SIGNATURE	TIME OF DISCHARGE		
[REDACTED]	[REDACTED]	8:45		

**CHART COPY**

EXAMINATION REQUESTED <b>R shoulder</b>		<input type="checkbox"/> AMBULATORY
REASON FOR REQUEST <b>C-spine, <del>R shoulder</del></b>		<input type="checkbox"/> WHEELCHAIR
		<input checked="" type="checkbox"/> STRETCHER
SPECIAL INSTRUCTIONS		<input type="checkbox"/> PORTABLE
DATE OF REQUEST <b>95</b>	DATE EXAM TO BE DONE	REQUESTING DOCTOR
X-RAY	TECHNICIAN	NURSE'S SIGNATURE

PLEASE DO NOT WRITE BELOW THIS LINE

## X-RAY REPORT

95

### CERVICAL SPINE SERIES:

CLINICAL HISTORY: MVA, trauma.

There are extensive degenerative changes involving the cervical spine with disk space narrowing at C3-4 and mild disk space narrowing at C5-6. The vertebral bodies are well aligned. There is loss of flexion at C3-4 and C5-6 secondary to degenerative disease. Osteophytes are noted from C3 through C7. The neural foramina are normal bilaterally. Prevertebral soft tissues are normal.

CONCLUSION: MODERATE DEGENERATIVE CHANGES IN CERVICAL SPINE.

### RIGHT SHOULDER SERIES:

The shoulder joints are normal with no fractures, subluxation, or bone destruction. The acromioclavicular joints are normal. The soft tissues are normal.

, M.D.

DD/DT: **95**

**Appendix N:**

**NASS CDS OCCUPANT ASSESSMENT FORM:**

**VEHICLE #2 RIGHT FRONT PASSENGER**



## OCCUPANT ASSESSMENT FORM

1. Primary Sampling Unit Number

10

2. Case Number - Stratum

9510

3. Vehicle Number

02

4. Occupant Number

02

### OCCUPANT'S CHARACTERISTICS

5. Occupant's Age

75

Code actual age at time of accident.

(00) Less than one year old (specify by month):

(97) 97 years and older

(99) Unknown

6. Occupant's Sex

1

(1) Male

(2) Female-not reported pregnant

(3) Female-pregnant-1st trimester(1st-3rd month)

(4) Female-pregnant-2nd trimester(4th-6th month)

(5) Female-pregnant-3rd trimester(7th-9th month)

(6) Female-pregnant-term unknown

(9) Unknown

7. Occupant's Height

163

Code actual height to the nearest  
centimeter.

(999) Unknown

64 inches X 2.54 = 163 centimeters

8. Occupant's Weight

075

Code actual weight to the nearest  
kilogram.

(999) Unknown

165 pounds X .4536 = 75 kilograms

9. Occupant's Role

2

(1) Driver

(2) Passenger

(9) Unknown

### OCCUPANT'S SEATING

10. Occupant's Seat Position

13

*Front Seat*

(11) Left side

(12) Middle

(13) Right side

(14) Other (specify):

(15) On or in the lap of another occupant

*Second Seat*

(21) Left side

(22) Middle

(23) Right side

(24) Other (specify):

(25) On or in the lap of another occupant

*Third Seat*

(31) Left side

(32) Middle

(33) Right side

(34) Other (specify):

(35) On or in the lap of another occupant

*Fourth Seat*

(41) Left side

(42) Middle

(43) Right side

(44) Other (specify):

(45) On or in the lap of another occupant

(97) In or on unenclosed area

(98) Other seat (specify):

(99) Unknown

11. Occupant's Posture

0

(0) Normal posture

*Abnormal posture*

(1) Kneeling or standing on seat

(2) Lying on or across seat

(3) Kneeling, standing or sitting in front of seat

(4) Sitting sideways or turned to talk with another  
occupant or to look out a rear window

(5) Sitting on a console

(6) Lying back in a reclined seat position

(7) Bracing with feet or hands on a surface in front  
of seat

(8) Other abnormal posture (specify):

(9) Unknown

## EJECTION/ENTRAPMENT

12. Ejection 0

- (0) No ejection
- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, unknown degree
- (9) Unknown

13. Ejection Area 0

- (0) No ejection
- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear
- (7) Roof
- (8) Other area (e.g., back of pickup, etc.)  
(specify): \_\_\_\_\_
- (9) Unknown

14. Ejection Medium 0

- (0) No ejection
- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify): \_\_\_\_\_
- (5) Integral structure
- (8) Other medium (specify): \_\_\_\_\_
- (9) Unknown

15. Medium Status (Immediately Prior To Impact) 0

- (0) No ejection
- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

16. Entrapment 0

- (0) Not entrapped/exit not inhibited
- (1) Entrapped/pinned - mechanically restrained
- (2) Could not exit vehicle due to jammed doors, fire, etc.  
(specify): \_\_\_\_\_
- (9) Unknown

17. Occupant Mobility 3

- (0) Occupant fatal before removed from vehicle
- (1) Removed from vehicle while unconscious or disoriented
- (2) Removed from vehicle due to injuries
- (3) Exited vehicle with some assistance
- (4) Exited vehicle under own power
- (5) Occupant fully ejected
- (9) Unknown

## BELT SYSTEM FUNCTION

18. Manual (Active) Belt System Availability 4

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available—type unknown

*Integral Belt Partially Destroyed*

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)
- (8) Other belt (specify):

(9) Unknown

19. Manual (Active) Belt System Use 04

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify):

- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used—type unknown
- (08) Other belt used (specify):

- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat—type unknown
- (18) Other belt used with child safety seat (specify):
- (99) Unknown if belt used

20. Proper Use of Manual (Active) Belts 1

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

*Belt Used Improperly*

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify):

- (8) Other improper use of manual belt system (specify):

(9) Unknown

21. Manual (Active) Belt Failure Modes During Accident 9

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):

- (6) Broken retractor
- (7) Combination of above (specify):

- (8) Other manual belt failure (specify):

(9) Unknown

22. Shoulder Belt Upper Anchorage Adjustment 9

- (0) No shoulder belt
- (1) No upper anchorage adjustment for shoulder belt

*Adjustable shoulder Belt Upper Anchorage*

- (2) In full up position
- (3) In mid position
- (4) In full down position
- (5) Position unknown
- (9) Unknown if position has adjustable upper anchorage adjustment

23. Automatic (Passive) Belt System Availability/Function 0

- (0) Not equipped/not available
- (1) 2 point automatic belts
- (2) 3 point automatic belts
- (3) Automatic belts - type unknown

*Non-functional*

- (4) Automatic belts destroyed or rendered inoperative
- (9) Unknown

24. Automatic (Passive) Belt System Use 0

- (0) Not equipped/not available/destroyed or rendered inoperative
- (1) Automatic belt in use
- (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify):
- (3) Automatic belt use unknown
- (9) Unknown

25. Automatic (Passive) Belt System Type 0

- (0) Not equipped/not available
- (1) Non-motorized system
- (2) Motorized system
- (9) Unknown

26. Proper Use of Automatic (Passive) Belt System 0

- (0) Not equipped/not available/not used
- (1) Automatic belt used properly
- (2) Automatic belt used properly with child safety seat

*Automatic Belt Used Improperly*

- (3) Automatic shoulder belt worn under arm
- (4) Automatic shoulder belt worn behind back
- (5) Automatic belt worn around more than one person
- (6) Lap portion of automatic belt worn on abdomen
- (7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify):

- (8) Other improper use of automatic belt system (specify):

(9) Unknown

27. Automatic (Passive) Belt Failure Modes During Accident 0

- (0) Not equipped/not available/not in use
- (1) No automatic belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):

- (6) Broken retractor
- (7) Combination of above (specify):
- (8) Other automatic belt failure (specify):

(9) Unknown

## POLICE REPORTED RESTRAINT USE

28. Police Reported Belt Use 4

- (0) None used  
 (1) Police did not indicate belt use  
 (2) Shoulder belt  
 (3) Lap belt  
 (4) Lap and shoulder belt  
 (5) Belt used, type not specified  
 (6) Child safety seat  
 (7) Automatic belt  
 (8) Other type belt, (specify):  
 \_\_\_\_\_  
 (9) Police indicated "unknown"

29. Police Reported Air Bag Availability/Function 3

- (0) No air bag available  
 (1) Police did not indicate air bag availability/function  
 (2) Deployed  
 (3) Not deployed  
 (4) Unknown if deployed  
 (9) Police indicated "unknown"

Check the Primary Source Used In Determining Belt Use.

- ☐ Not equipped/not available/destroyed or rendered inoperative  
☐ Vehicle inspection  
☐ Official injury data  
☒ Driver/occupant interview  
☐ Other (specify):  
 \_\_\_\_\_  
☐ Unknown if belt used  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## AIR BAG SYSTEM FUNCTION

30. Frontal Air Bag System Availability/Function (This Occupant Position) 0

- (0) Not equipped/not available  
 (1) Air bag  
 Non-functional  
 (2) Air bag disconnected (specify):  
 \_\_\_\_\_  
 (3) Air bag not reinstalled  
 (9) Unknown

31. Frontal Air Bag System Deployment (This Occupant Position) 0

- (0) Not equipped/not available  
 (1) Deployed during accident (as a result of impact)  
 (2) Deployed inadvertently just prior to accident  
 (3) Deployed, details unknown  
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)  
 (5) Unknown if deployed  
 (7) Nondeployed  
 (9) Unknown

32. Other Than First Seat Frontal Air Bag Availability/Function (This Occupant Position) 0

- (0) Not equipped/not available  
 (1) Air bag

Non-functional

- (2) Air bag disconnected (specify):  
 \_\_\_\_\_

- (3) Air bag not reinstalled  
 (9) Unknown

Specify type of "other" air bag present:  
 \_\_\_\_\_

33. Air Bag(s) Deployment, Other Than First Seat Frontal (This Occupant Position) 0

- (0) Not equipped with an "other" air bag  
 (1) Deployed during accident (as a result of impact)  
 (2) Deployed inadvertently just prior to accident  
 (3) Deployed, details unknown  
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)  
 (5) Unknown if deployed  
 (7) Nondeployed  
 (9) Unknown

34. Are There Indications of Air Bag System Failure? (This Occupant Position) 0

- (0) Not equipped/not available  
 (1) No  
 (2) Yes (specify):  
 \_\_\_\_\_  
 (9) Unknown



## FIRST SEAT FRONTAL AIR BAG SYSTEM EVALUATION

35. Had Vehicle Been in Previous Accident(s)? 0

- (0) Not equipped/not available  
(1) No previous accidents

Yes

- (2) Previous accident(s) without deployment(s)  
(3) One previous accident with deployment  
(4) More than one previous accident with at least one deployment  
(8) Previous accidents, unknown deployment status  
(9) Unknown

36. Type of Air Bag 0

- (0) Not equipped/not available  
(1) Original manufacturer installed system  
(2) Retrofitted air bag  
(3) Replacement air bag  
(8) Unknown type of air bag  
(9) Unknown

37. Had Any Prior Maintenance/Service Been Performed On This Air Bag System? 0

- (0) Not equipped/not available  
(1) No prior maintenance  
(2) Yes, prior maintenance (specify): \_\_\_\_\_

(9) Unknown

38. Air Bag Deployment Accident Event Sequence Number 00

- (00) Not equipped/not available  
\_\_\_\_\_ Code the accident event sequence number that initiated the air bag deployment

- (96) Deployed, unknown event  
(97) Not deployed  
(98) Unknown if deployed  
(99) Unknown

39. CDC For Air Bag Deployment Impact 0

- (0) Not equipped/not available  
(1) Highest delta V  
(2) Second highest delta V  
(3) Other non-coded delta V (specify): \_\_\_\_\_

- (6) Deployed, unknown event  
(7) Not deployed  
(8) Unknown if deployed  
(9) Unknown

40. Longitudinal Component of +Delta V For Air Bag Deployment Impact - 0 0 0

(\_ 000) Not equipped/not available

Code the value of the delta V for the impact that initiated the air bag deployment

(\_ 996) Deployment, unknown longitudinal Delta V

(\_ 997) Not deployed

(\_ 998) Unknown if deployed

(\_ 999) Unknown

41. Did Air Bag Module Cover Flap(s) Open At Designated Tear Points? 0

- (0) Not equipped/not available  
(1) No  
(2) Yes  
(3) Deployed, unknown if flap(s) opened at designated tear points  
(7) Not deployed  
(8) Unknown if deployed  
(9) Unknown

42. Were Air Bag Module Cover Flap(s) Damaged? 0

- (0) Not equipped/not available  
(1) No  
(2) Yes (specify): \_\_\_\_\_  
(3) Deployed, unknown if air bag module cover flap(s) damaged  
(7) Not deployed  
(8) Unknown if deployed  
(9) Unknown

43. Was There Damage To The Air Bag? 0 0

- (00) Not equipped/not available  
(01) Not damaged

Yes - Air Bag Damage

- (02) Ruptured  
(03) Cut  
(04) Torn  
(05) Holed  
(06) Burned  
(07) Abraded  
(88) Other damage (specify): \_\_\_\_\_

- (95) Damaged, details unknown  
(96) Deployed, unknown if damaged  
(97) Not deployed  
(98) Unknown if deployed  
(99) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM  
EVALUATION *continued*44. Source of Air Bag Damage 00

- (00) Not equipped/not available  
 (01) Not damaged  
 (02) Object worn by occupant, (specify):

(03) Object carried by occupant, (specify):

(04) Adaptive/assistive controls, (specify):

- (05) Fire in vehicle  
 (06) Thermal burns  
 (07) Rescue or emergency efforts  
 (88) Other damage source (specify):

- (95) Damaged, unknown source  
 (96) Deployed, unknown if damaged  
 (97) Not deployed  
 (98) Unknown if deployed  
 (99) Unknown

45. Was The Air Bag Tethered? 0

- (0) Not equipped/not available  
 (1) No  
 (2) Yes (specify number of tether straps):

- (3) Deployed, unknown if tethered  
 (7) Not deployed  
 (8) Unknown if deployed  
 (9) Unknown

46. Did The Air Bag Have Vent Ports? 0

- (0) Not equipped/not available  
 (1) No  
 (2) Yes (specify number of vent ports):

- (3) Deployed, unknown if vent ports present  
 (7) Not deployed  
 (8) Unknown if deployed  
 (9) Unknown

47. Was the Air Bag in this Occupant's Position Contacted by Another Occupant? 0

- (0) Not equipped/not available  
 (1) No  
 (2) Yes (specify):

- (3) Deployed, unknown if other occupant contact to air bag  
 (7) Not deployed  
 (8) Unknown if deployed  
 (9) Unknown

48. Was This Occupant Wearing Eye-wear? 0

- (0) Not equipped/not available  
 (1) No  
 (2) Eyeglasses/sunglasses  
 (3) Contact lenses  
 (4) Deployed, unknown if eyewear worn  
 (7) Not deployed  
 (8) Unknown if deployed  
 (9) Unknown

## HEAD RESTRAINT AND SEAT EVALUATION

49. Head Restraint Type/Damage by Occupant at This Occupant Position 9

- (0) No head restraints  
 (1) Integral—no damage  
 (2) Integral—damaged during accident  
 (3) Adjustable—no damage  
 (4) Adjustable—damaged during accident  
 (5) Add-on—no damage  
 (6) Add-on—damaged during accident  
 (8) Other (specify):

(9) Unknown

50. Seat Type (this Occupant Position) 99

- (00) Occupant not seated or no seat  
 (01) Bucket  
 (02) Bucket with folding back  
 (03) Bench  
 (04) Bench with separate back cushions  
 (05) Bench with folding back(s)  
 (06) Split bench with separate back cushions  
 (07) Split bench with folding back(s)  
 (08) Pedestal (i.e., column supported)  
 (09) Box mounted seat (i.e., van type)  
 (10) Other seat type (specify):

(99) Unknown

51. Seat Orientation (this Occupant Position) 9

- (0) Occupant not seated or no seat  
 (1) Forward facing seat  
 (2) Rear facing seat  
 (3) Side facing seat (inward)  
 (4) Side facing seat (outward)  
 (8) Other (specify):

(9) Unknown

52. Seat Track Adjusted Position Prior To Impact 3

- (0) Occupant not seated or no seat  
 (1) Non-adjustable seat track

*Adjustable Seat Track*

- (2) Seat at forward most track position  
 (3) Seat between forward most and middle track positions  
 (4) Seat at middle track position  
 (5) Seat between middle and rear most track positions  
 (6) Seat at rear most track position  
 (9) Unknown

HEAD RESTRAINT AND SEAT EVALUATION *continued*53. Seat Back Incline Prior and Post Impact 14

- (00) Occupant not seated or no seat  
 (01) Not adjustable

*Upright prior to impact*

- (11) Moved to completely rearward position  
 (12) Moved to rearward midrange position  
 (13) Moved to slightly rearward position  
 (14) Retained pre-impact position  
 (15) Moved to slightly forward position  
 (16) Moved to forward midrange position  
 (17) Moved to completely forward position

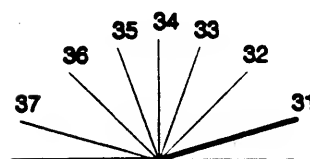
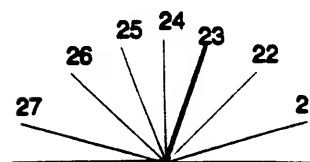
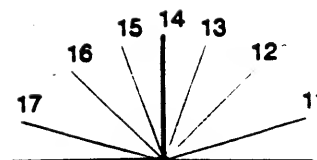
*Slightly reclined prior to impact*

- (21) Moved to completely rearward position  
 (22) Moved to rearward midrange position  
 (23) Retained pre-impact position  
 (24) Moved to upright position  
 (25) Moved to slightly forward position  
 (26) Moved to forward midrange position  
 (27) Moved to completely forward position

*Completely reclined prior to impact*

- (31) Retained pre-impact position  
 (32) Moved to rearward midrange position  
 (33) Moved to slightly rearward position  
 (34) Moved to upright position  
 (35) Moved to slightly forward position  
 (36) Moved to forward midrange position  
 (37) Moved to completely forward position

- (99) Unknown

54. Seat Performance (this Occupant Position) 9

- (0) Occupant not seated or no seat  
 (1) No seat performance failure(s)  
 (2) Seat adjusters failed  
 (3) Seat back folding locks or "seat back" failed (specify): \_\_\_\_\_  
 (4) Seat track/anchors failed  
 (5) Deformed by impact of occupant  
 (6) Deformed by passenger compartment intrusion, (specify): \_\_\_\_\_  
 (7) Combination of above (specify): \_\_\_\_\_  
 (8) Other (specify): \_\_\_\_\_  
 (9) Unknown

## CHILD SAFETY SEAT

55. Child Safety Seat Make/Model 000  
 (000) No child safety seat  
 Applicable codes are found in your NASS CDS  
 Data Collection, Coding and Editing  
 (950) Built-in child safety seat  
 (997) Other make/model (specify):  
 \_\_\_\_\_  
 (998) Unknown make/model  
 (999) Unknown if child safety seat used

56. Type of Child Safety Seat 0  
 (0) No child safety seat  
 (1) Infant seat  
 (2) Toddler seat  
 (3) Convertible seat  
 (4) Booster seat - with shield  
 (5) Booster seat - without shield  
 (7) Other type child safety seat (specify):  
 \_\_\_\_\_  
 (8) Unknown child safety seat type  
 (9) Unknown if child safety seat used

57. Child Safety Seat Orientation 00  
 (00) No child safety seat

*Designed for Rear Facing for This Age/Weight*

- (01) Rear facing  
 (02) Forward facing  
 (08) Other orientation (specify):  
 \_\_\_\_\_

- (09) Unknown orientation

*Designed For Forward Facing for This Age/Weight*

- (11) Rear facing  
 (12) Forward facing  
 (18) Other orientation (specify):  
 \_\_\_\_\_

- (19) Unknown orientation

*Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight*

- (21) Rear facing  
 (22) Forward facing  
 (28) Other orientation (specify):  
 \_\_\_\_\_

- (29) Unknown orientation

- (99) Unknown if child safety seat used

58. Child Safety Seat Harness Usage 00

59. Child Safety Seat Shield Usage 00

60. Child Safety Seat Tether Usage 00

Note: Options below applicable to  
 Variables OA58-OA60.

- (00) No child safety seat

*Not Designed With Harness/Shield/Tether*

- (01) After market harness/shield/tether  
 added, not used  
 (02) After market harness/shield/tether used  
 (03) Child safety seat used, but no after market  
 harness/shield/tether added  
 (09) Unknown if harness/shield/tether  
 added or used

*Designed With Harness/Shield/Tether*

- (11) Harness/shield/tether not used  
 (12) Harness/shield/tether used  
 (19) Unknown if harness/shield/tether used

*Unknown If Designed With Harness/Shield/Tether*

- (21) Harness/shield/tether not used  
 (22) Harness/shield/tether used  
 (29) Unknown if harness/shield/tether used

- (99) Unknown if child safety seat used

## INJURY CONSEQUENCES

61. Injury Severity (Police Rating) 2

- (0) O - No injury
- (1) C - Possible injury
- (2) B - Nonincapacitating injury
- (3) A - Incapacitating injury
- (4) K - Killed
- (5) U - Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

62. Treatment - Mortality 6

- (0) No treatment
- (1) Fatal
- (2) Fatal - ruled disease (specify):  
\_\_\_\_\_

*Nonfatal*

- (3) Hospitalization
- (4) Transported and released
- (5) Treatment at scene - nontransported
- (6) Treatment later
- (7) Treatment - other (specify):  
\_\_\_\_\_
- (8) Transported to a medical facility-unknown if treated
- (9) Unknown

63. Type Of Medical Facility (for Initial Treatment) 2

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):  
\_\_\_\_\_

(9) Unknown

64. Hospital Stay 00

- (00) Not Hospitalized  
\_\_\_\_\_ Code the number of days (up through 60)  
that the occupant stayed in hospital.
- (61) 61 days or more
- (99) Unknown

65. Working Days Lost 97

- \_\_\_\_\_ Code the number of days  
(up through 60) that the occupant  
lost from work due to the accident
- (00) No working days lost
- (61) 61 days or more
- (62) Fatally injured
- (97) Not working prior to accident
- (99) Unknown

STOP WORK HERE

VARIABLES 66-74

TO BE CODED BY THE ZONE CENTER

**TO BE CODED BY THE ZONE CENTER****INJURY CONSEQUENCES****66. Time to Death**

Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)

- (00) Not fatal  
(96) Fatal - ruled disease  
(99) Unknown

**67. 1st Medically Reported Cause of Death****68. 2nd Medically Reported Cause of Death****69. 3rd Medically Reported Cause of Death**

Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death

- (00) Not fatal or no additional causes  
(96) Mode of death given but specific injuries are not linked to cause of death. (specify):

(97) Other result (includes fatal ruled disease) (specify):

(99) Unknown

**70. Number of Recorded Injuries for This Occupant**

Code the actual number of injuries recorded for this occupant.

- (00) No recorded injuries  
(97) Injured, details unknown  
(99) Unknown if injured

**TRAUMA DATA****71. Glasgow Coma Scale (GCS) Score**

(at Medical Facility)

- (00) Not injured  
(01) Injured - not treated at medical facility  
(02) No GCS Score at medical facility  
(03-15) Code the actual value of the initial GCS Score recorded at medical facility.  
(97) Injured, details unknown  
(99) Unknown if injured

**72. Was the Occupant Given Blood?**

(1) No - blood not given

(2) Yes - blood given

(specify units):

(9) Unknown if blood given

**73. Arterial Blood Gases (ABG) - HCO<sub>3</sub>**

(00) Not injured

(01) Injured, ABGs not measured or reported

(02-50) Code the actual value of the HCO<sub>3</sub>

(96) ABGs reported, HCO<sub>3</sub> unknown

(97) Injured, details unknown

(99) Unknown if injured

**BELT USE DETERMINATION****74. Primary Source of Belt Use Determination**

(0) Not equipped/not available/destroyed or rendered inoperative

(1) Vehicle inspection

(2) Official injury data

(3) Driver/occupant interview

(8) Other (specify):

(9) Unknown if belt used

**Appendix O:**

**NASS CDS OCCUPANT INJURY FORM:**

**VEHICLE #2 RIGHT FRONT PASSENGER**



U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

# OCCUPANT INJURY FORM

Form Approved  
O.M.B. No. 2127-0021

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number

10

3. Vehicle Number

02

2. Case Number - Stratum

9510

4. Occupant Number

02

## INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

Source of Injury Data	Body Region	A.I.S. - 90		Level of Injury	A.I.S. Severity	Aspect	Injury Source	Injury Source Confidence Level	Direct/Indirect Injury	Occupant Area Intrusion Number	
		Type of Anatomic Structure	Specific Anatomic Structure								
Fr 4th Finger 1st	5. <u>3</u>	6. <u>7</u>	7. <u>5</u>	8. <u>24</u>	9. <u>04</u>	10. <u>1</u>	11. <u>1</u>	12. <u>012</u>	13. <u>3</u>	14. <u>1</u>	15. <u>99</u>
Sprain 2nd shoulder	16. <u>3</u>	17. <u>7</u>	18. <u>5</u>	19. <u>10</u>	20. <u>20</u>	21. <u>1</u>	22. <u>2</u>	23. <u>011</u>	24. <u>2</u>	25. <u>1</u>	26. <u>99</u>
Contusion mid-Stratum	27. <u>3</u>	28. <u>4</u>	29. <u>9</u>	30. <u>04</u>	31. <u>02</u>	32. <u>1</u>	33. <u>4</u>	34. <u>152</u>	35. <u>1</u>	36. <u>1</u>	37. <u>00</u>
Avalsin 4th Finger 1st	38. <u>3</u>	39. <u>7</u>	40. <u>9</u>	41. <u>08</u>	42. <u>02</u>	43. <u>1</u>	44. <u>1</u>	45. <u>012</u>	46. <u>3</u>	47. <u>1</u>	48. <u>99</u>
Contusion 5th hand + fingers	49. <u>3</u>	50. <u>7</u>	51. <u>9</u>	52. <u>04</u>	53. <u>02</u>	54. <u>1</u>	55. <u>1</u>	56. <u>012</u>	57. <u>3</u>	58. <u>1</u>	59. <u>99</u>
Contusion 6th hand	60. <u>7</u>	61. <u>1</u>	62. <u>9</u>	63. <u>04</u>	64. <u>02</u>	65. <u>1</u>	66. <u>2</u>	67. <u>011</u>	68. <u>2</u>	69. <u>1</u>	70. <u>99</u>
Contusion 7th jaw	71. <u>7</u>	72. <u>2</u>	73. <u>9</u>	74. <u>04</u>	75. <u>02</u>	76. <u>1</u>	77. <u>2</u>	78. <u>011</u>	79. <u>2</u>	80. <u>1</u>	81. <u>99</u>
8th	82. <u>  </u>	83. <u>  </u>	84. <u>  </u>	85. <u>  </u>	86. <u>  </u>	87. <u>  </u>	88. <u>  </u>	89. <u>  </u>	90. <u>  </u>	91. <u>  </u>	92. <u>  </u>
9th	93. <u>  </u>	94. <u>  </u>	95. <u>  </u>	96. <u>  </u>	97. <u>  </u>	98. <u>  </u>	99. <u>  </u>	100. <u>  </u>	101. <u>  </u>	102. <u>  </u>	103. <u>  </u>
10th	104. <u>  </u>	105. <u>  </u>	106. <u>  </u>	107. <u>  </u>	108. <u>  </u>	109. <u>  </u>	110. <u>  </u>	111. <u>  </u>	112. <u>  </u>	113. <u>  </u>	114. <u>  </u>

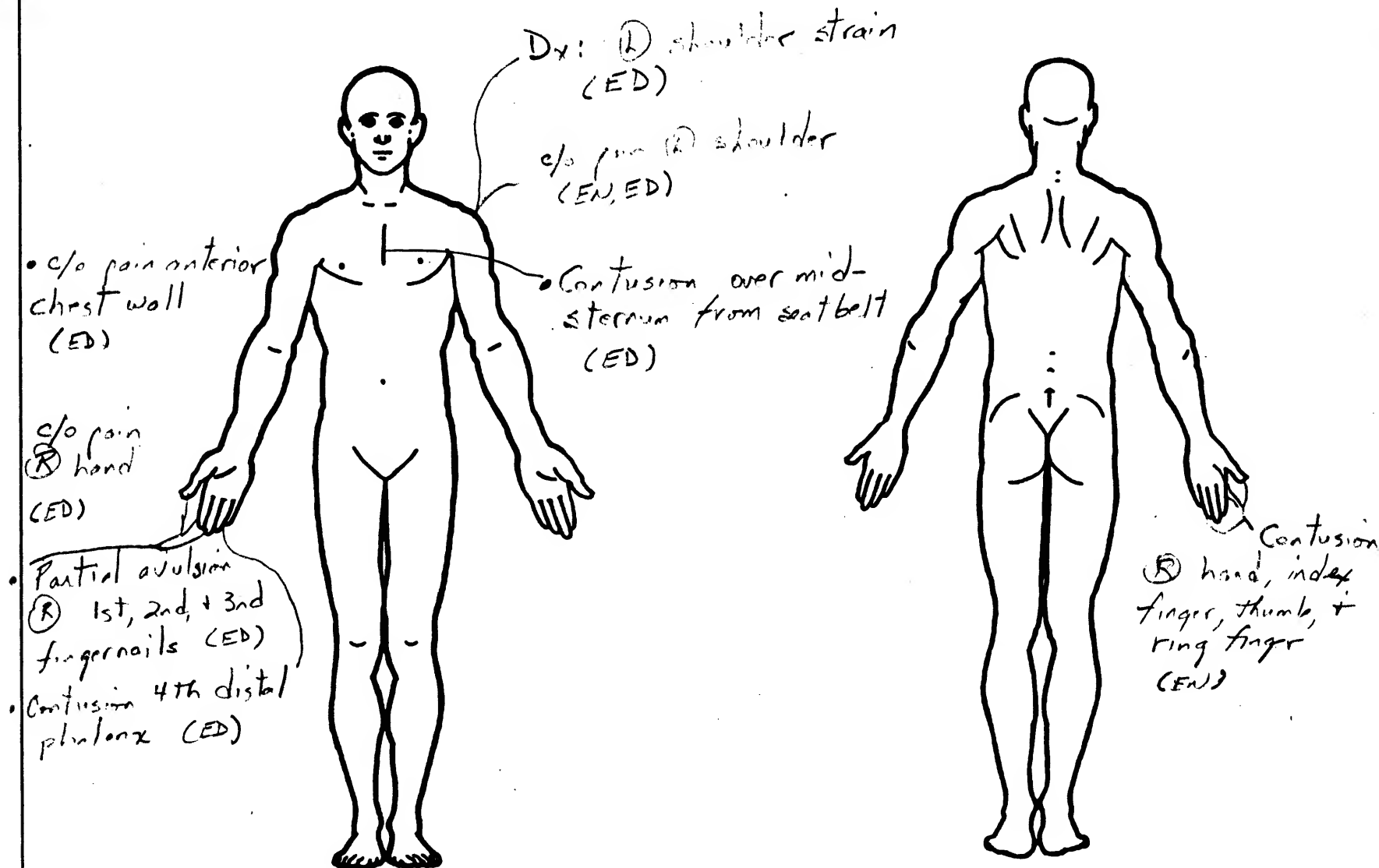


**.I.S. - 90**[illegible]

## OFFICIAL INJURY DATA — SOFT TISSUE INJURIES

64 inches 165 pounds (FR) • In crash ~ 4 hours ago (ED)

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)



## OCCUPANT INJURY CLASSIFICATION

Body Region	Specific Anatomic Structure	Level of Injury	Aspect
(1) Head		Specific injuries are assigned consecutive two-digit numbers beginning with 02.	(1) Right
(2) Face			(2) Left
(3) Neck	<u>Vessels, Nerves, Organs.</u>	To the extent possible, within the organizational framework of the AIS, 00 is assigned to an injury NFS as to severity or where only one injury is given in the dictionary for that anatomic structure. 99 is assigned to any injury NFS as to lesion or severity.	(3) Bilateral
(4) Thorax	<u>Bones, Joints</u> are assigned consecutive two digit numbers beginning with 02.		(4) Central
(5) Abdomen		The exceptions to this rule apply to:	(5) Anterior
(6) Spine			(6) Posterior
(7) Upper Extremity			(7) Superior
(8) Lower Extremity			(8) Inferior
(9) Unspecified			(9) Unknown
			(0) Whole region
Type of Anatomic Structure	Whole Area	Abbreviated Injury Scale	
(1) Whole Area	(02) Skin - Abrasion	(1) Minor Injury	
(2) Vessels	(04) Skin - Contusion	(2) Moderate Injury	
(3) Nerves	(06) Skin - Laceration	(3) Serious Injury	
(4) Organs (includes Muscles/ligaments)	(08) Skin - Avulsion	(4) Severe Injury	
(5) Skeletal (includes joints)	(10) Amputation	(5) Critical Injury	
(6) Head - LOC	(20) Burn	(6) Maximum (untreatable)	
(9) Skin	(30) Crush	(7) Injured, unknown severity	
	(40) Degloving		
	(50) Injury - NFS		
	(90) Trauma, other than mechanical		
	<u>Head - LOC</u>		
	(02) Length of LOC		
	(04) Level		
	(06) of		
	(08) Consciousness		
	(10) Concussion		
	<u>Spine</u>		
	(02) Cervical		
	(04) Thoracic		
	(06) Lumbar		

## SOURCE OF INJURY DATA

## INJURY SOURCE

## DIRECT/INDIRECT INJURY

## CONFIDENCE LEVEL

OFFICIAL RECORDS

- (1) Autopsy records with or without hospital/medical records
- (2) Hospital/medical records other than emergency room (e.g., discharge summary)
- (3) Emergency room records only (including associated X-rays or other lab reports)
- (4) Private physician, walk-in or emergency clinic

UNOFFICIAL RECORDS

- (5) Lay coroner report
- (6) E.M.S. personnel
- (7) Interviewee
- (8) Other source (specify): \_\_\_\_\_
- (9) Police

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

- (1) Direct contact injury
- (2) Indirect contact injury
- (3) Noncontact injury
- (7) Injured, unknown source

## OFFICIAL INJURY DATA — SKELETAL INJURIES

Restrained?

☐ No  
☒ Yes

Blood Alcohol  
Level (mg/dl)

BAL = \_\_\_\_

Glasgow Coma  
Scale Score

GCSS = 15  
 (EN)

Units of Blood  
Given

Units = \_\_\_\_

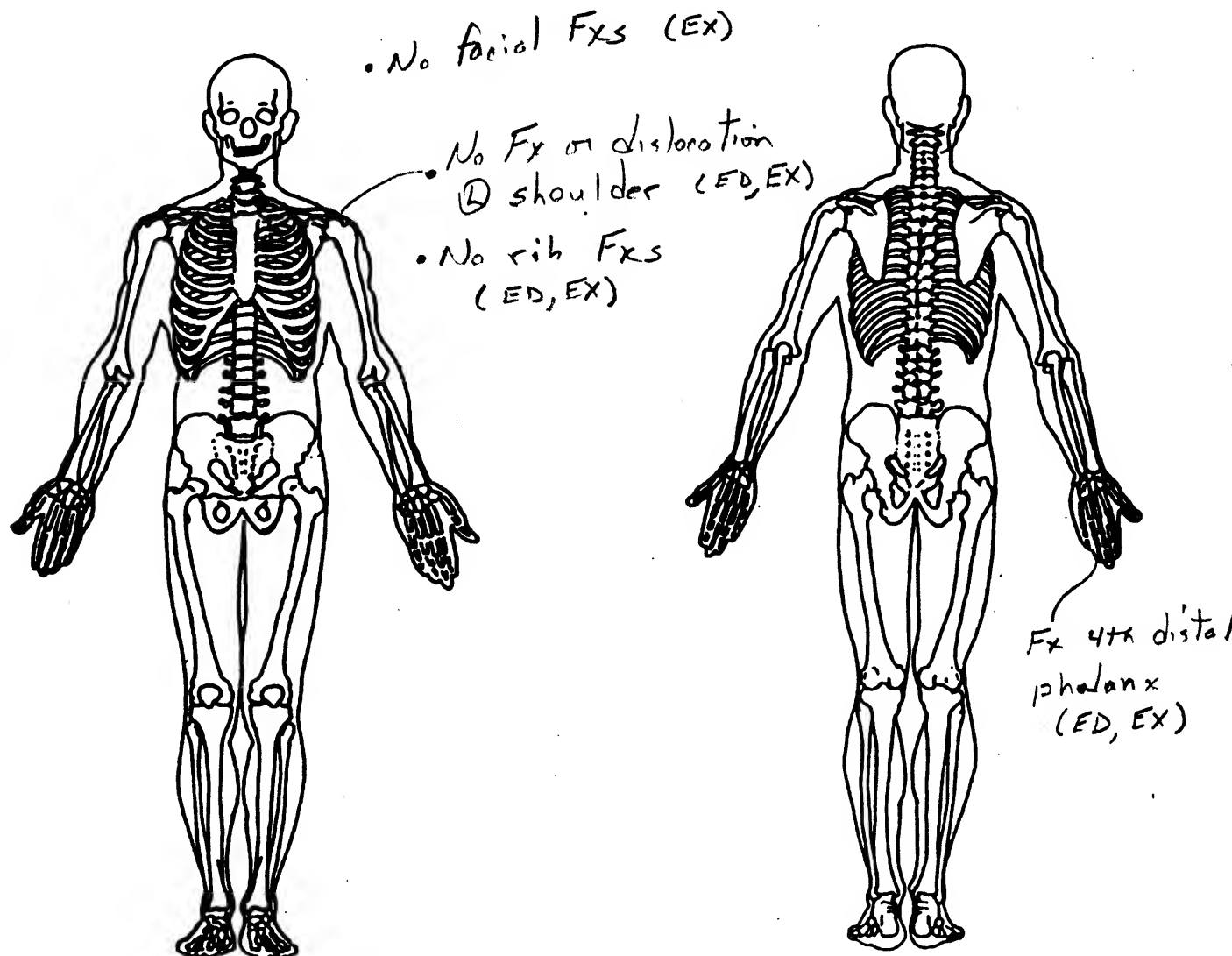
Arterial Blood  
Gases

pH = \_\_\_\_

PO<sub>2</sub> = \_\_\_\_PCO<sub>2</sub> = \_\_\_\_HCO<sub>3</sub> = \_\_\_\_

with seatbelt (EN, ED)

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)



## INJURY SOURCES

### FRONT

- (001) Windshield
- (002) Mirror
- (003) Sunvisor
- (004) Steering wheel rim
- (005) Steering wheel hub/spoke
- (006) Steering wheel (combination of codes 004 and 005)
- (007) Steering column, transmission selector lever, other attachment
- (008) Cellular telephone or CB radio
- (009) Add on equipment (e.g., tape deck, air conditioner)
- (010) Left instrument panel and below
- (011) Center instrument panel and below
- (012) Right instrument panel and below
- (013) Glove compartment door
- (014) Knee bolster
- (015) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (016) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
- (017) Windshield reinforced by exterior object (specify): \_\_\_\_\_
- (019) Other front object (specify): \_\_\_\_\_

### LEFT SIDE

- (051) Left side interior surface, excluding hardware or armrests
- (052) Left side hardware or armrest
- (053) Left A (A1/A2)-pillar
- (054) Left B-pillar
- (055) Other left pillar (specify): \_\_\_\_\_
- (056) Left side window glass
- (057) Left side window frame
- (058) Left side window sill
- (059) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (060) Other left side object (specify): \_\_\_\_\_

### RIGHT SIDE

- (101) Right side interior surface, excluding hardware or armrests

- (102) Right side hardware or armrest
- (103) Right A (A1/A2)-pillar
- (104) Right B-pillar
- (105) Other right pillar (specify): \_\_\_\_\_
- (106) Right side window glass
- (107) Right side window frame
- (108) Right side window sill
- (109) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (110) Other right side object (specify): \_\_\_\_\_

### INTERIOR

- (151) Seat, back support
- (152) Belt restraint webbing/buckle
- (153) Belt restraint B-pillar or door frame attachment point
- (154) Other restraint system component (specify): \_\_\_\_\_
- (155) Head restraint system
- (160) Other occupants (specify): \_\_\_\_\_
- (161) Interior loose objects
- (162) Child safety seat (specify): \_\_\_\_\_
- (163) Other interior object (specify): \_\_\_\_\_

### AIR BAG

- (170) Air bag-driver side
- (171) Air bag-driver side and awayward
- (172) Air bag-driver side and jewelry
- (173) Air bag-driver side and object held
- (174) Air bag-driver side and object in mouth
- (175) Air bag compartment cover-driver side
- (176) Air bag compartment cover-driver side and awayward
- (177) Air bag compartment cover-driver side and jewelry
- (178) Air bag compartment cover-driver side and object held
- (179) Air bag compartment cover-driver side and object in mouth
- (180) Air bag-passenger side
- (181) Air bag-passenger side and awayward
- (182) Air bag-passenger side and jewelry

- (183) Air bag-passenger side and object held
- (184) Air bag-passenger side and object in mouth
- (185) Air bag compartment cover-passenger side
- (186) Air bag compartment cover-passenger side and awayward
- (187) Air bag compartment cover-passenger side and jewelry
- (188) Air bag compartment cover-passenger side and object held
- (189) Air bag compartment cover-passenger side and object in mouth
- (190) Other air bag (specify): \_\_\_\_\_
- (195) Other air bag compartment cover (specify): \_\_\_\_\_

### ROOF

- (201) Front header
- (202) Rear header
- (203) Roof left side rail
- (204) Roof right side rail
- (205) Roof or convertible top

### FLOOR

- (251) Floor (including toe pan)
- (252) Floor or console mounted transmission lever, including console
- (253) Parking brake handle
- (254) Foot controls including parking brake

### REAR

- (301) Backlight (rear window)
- (302) Backlight storage rack, door, etc.
- (303) Other rear object (specify): \_\_\_\_\_

### ADAPTIVE (ASSISTIVE) DRIVING EQUIPMENT

- (401) Hand controls for braking/acceleration
- (402) Steering control devices (attached to OEM steering wheel)
- (403) Steering knob attached to steering wheel
- (405) Replacement steering wheel (i.e., reduced diameter)
- (406) Joy stick steering controls
- (407) Wheelchair tie-downs
- (408) Modification to seat belts, (specify): \_\_\_\_\_
- (409) Additional or relocated switches, (specify): \_\_\_\_\_
- (410) Raised roof

- (411) Wall mounted head rest (used behind wheel chair)
- (412) Other adaptive device (specify): \_\_\_\_\_

### EXTERIOR OF OCCUPANT'S VEHICLE

- (451) Hood
- (452) Outside hardware (e.g., outside mirror, antenna)
- (453) Other exterior surface or tires (specify): \_\_\_\_\_
- (454) Unknown exterior objects

### EXTERIOR OF OTHER MOTOR VEHICLE

- (501) Front bumper
- (502) Hood edge
- (503) Other front of vehicle (specify): \_\_\_\_\_
- (504) Hood
- (505) Hood ornament
- (506) Windshield, roof rail, A-pillar
- (507) Side surface
- (508) Side mirrors
- (509) Other side protrusions (specify): \_\_\_\_\_
- (510) Rear surface
- (511) Undercarriage
- (512) Tires and wheels
- (513) Other exterior of other motor vehicle (specify): \_\_\_\_\_
- (514) Unknown exterior of other motor vehicle

### OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT

- (551) Ground
- (598) Other vehicle or object (specify): \_\_\_\_\_
- (599) Unknown vehicle or object

### NONCONTACT INJURY

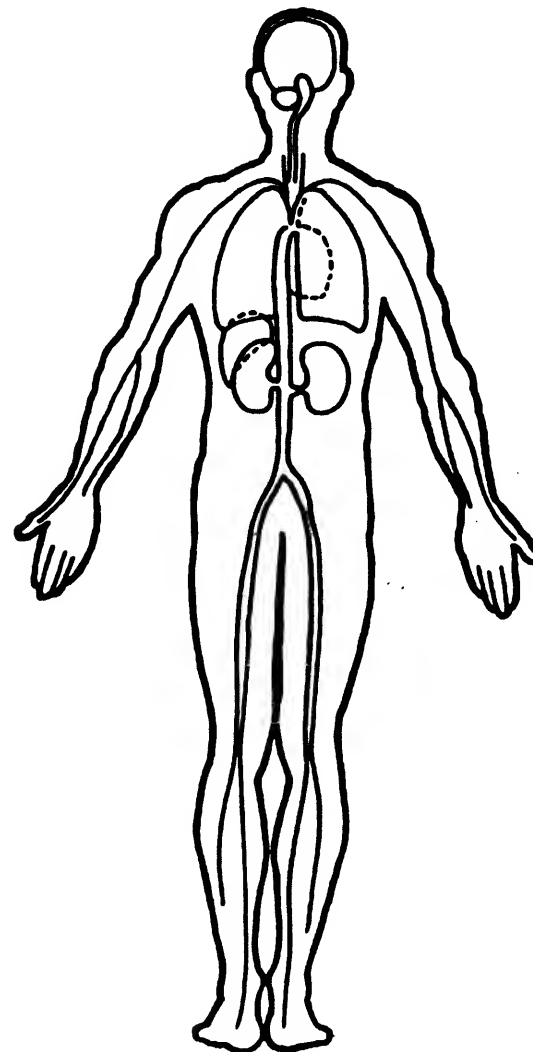
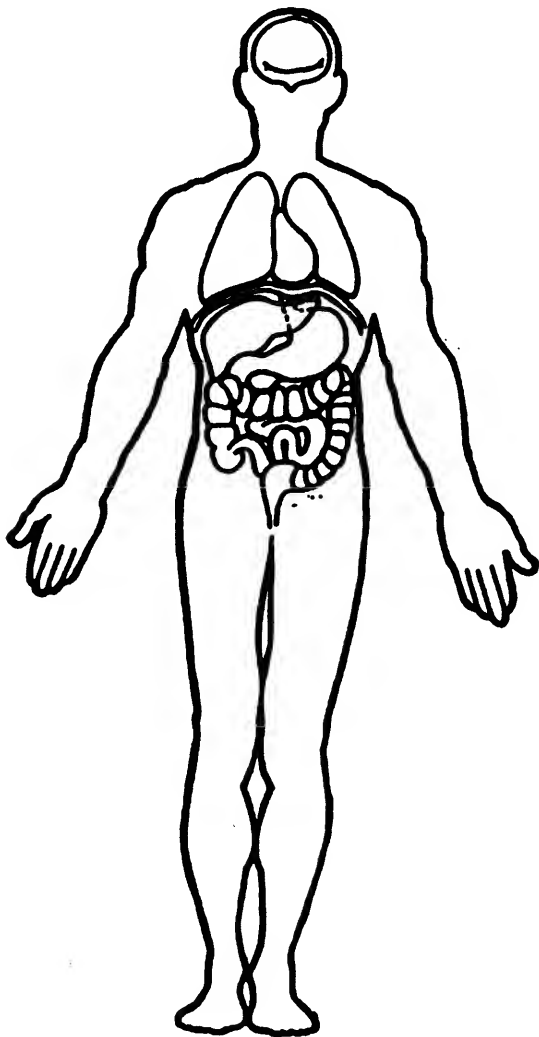
- (601) Fire in vehicle
- (602) Flying glass
- (603) Other noncontact injury source (specify): \_\_\_\_\_
- (604) Air bag exhaust gases
- (697) Injured, unknown source

## OFFICIAL INJURY DATA — INTERNAL INJURIES

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

⊖ LOC, denies blurred vision.  
(ED)

Awake, O x 3, verbalized understanding  
instructions (EN)



## CAUSE OF DEATH

## ICD-9-CM

### OTHER DRUGS (GV16)

Specimen Test Type	Drug(s)	Drug Type
<input type="checkbox"/> Blood and urine tests <input type="checkbox"/> Blood test only <input type="checkbox"/> Urine test only <input type="checkbox"/> Other test <input type="checkbox"/> Unspecified		

### MEDICAL RECORD ABBREVIATIONS

Symbol	Record Type Description
<b>A</b>	Autopsy—medical information based upon an invasive examination of a body
<b>ME</b>	Medical examiner's record—where the information reported on the patient is based on a non-invasive examination of the body
<b>AR</b>	Admission record/summary—any medical information on this record should be considered as post-ER since it summarizes the patient's admission; these records are common in short hospitalizations and usually only contain: admission DX(s), final DX(s), and a listing of surgical treatments; ICD-9-CM codes are frequently available.
<b>FS</b>	Admission/discharge face sheet—face sheets are essentially the same as admission record/summaries and contain the same types of information as discussed above
<b>DS</b>	Discharge summary—shorten history of a patient's hospitalization highlighting the patient's major injuries; this record is often written from the perspective of its author which in many cases is a consultant
<b>OS</b>	Operative record—summary of a performed surgical operation often providing detailed information about a specific trauma; patients who survive the surgery are normally admitted; thus, this record is normally considered post-ER; however, if this record results from an outpatient surgery, then treat it as emergency-room related
<b>FX</b>	Radiographic records—taken after the patient has been admitted, or while in surgery or intensive care
<b>PN</b>	Patient progress notes—supplemental record containing additional nurses notes taken after the patient's admission
<b>HP</b>	History and physical exam—medical history and the results of the physical exam obtained by the emergency room physician assigned to the patient upon arrival at the emergency room
<b>CN</b>	Consultation record—consultations are in essence additional history and physical exams performed by doctors whose expertise was requested by the emergency room physician; the consultation may occur during the emergency room visit or after admission
<b>ER</b>	Emergency room report—where the author of this information is undefined
<b>EN</b>	Emergency room nurse—"nurse/complaint of" section on the emergency room report
<b>ED</b>	Emergency room doctor—"objective/physical exam" section plus "diagnosis and treatment" sections (i.e., doctor portion of emergency room report)
<b>NN</b>	Nurse notes—supplemental record containing additional notes taken by the emergency room nurse(s)
<b>EX</b>	Radiographic records—taken during the patients stay in the emergency room
<b>CV</b>	Coroner's verdict—statement of cause of death for legal specific regarding injuries; care must be exercised to ascertain the credentials of the verdict's author.
<b>CR</b>	Coroner's report—medical information based upon a noninvasive examination performed by a person who is not a doctor but who has the title of a coroner
<b>ET</b>	Emergency medical technician—report by a person who qualifies as an emergency medical services technician (EMS or EMT)
<b>O</b>	Other source—medical information based on an other source (e.g., newspaper, DVM—Doctor of Veterinary Medicine)

**HOSPITAL**  
CONROE, TEXAS

REG DATE: 05-19-95  
REG TIME: 00:30  
EMERGENCY ROOM OUTPATIENT-RECORD

HOSPITAL				1. MEDICAL RECORD NO.				2. BILLING NO.				3. A/R NO.			
TX				4. CLASS ED				5. DATE 05-19-95				6. TIME 00:30			
10. PATIENT'S LEGAL NAME (L.F.M.I.)				11. SEX M		12. RACE B		13. BIRTH DATE		14. AGE 075		15. HEIGHT 5'4"		16. WEIGHT 165	
20. PR				21. NOTIFY IN EMERGENCY				22. HOME TEL				23. WORK TEL			
25. C COMPLAINT				26. PROCEDURE				27. LOC				28. TIME			
INVOLVED IN MVA				29. LOC				30. TIME				31. ANES			
32. PHYSICIAN CALLED				33. ATTENDING PHYSICIAN				34. FAMILY PHYSICIAN							
DATE OF ACCIDENT				TIME				SITE OF ACCIDENT				WITNESS			
CHIEF COMPLAINT/ NURSING ASSESSMENT				CONCIOUSNESS				NOTIFIED				PERSONAL MD			
0100 Pain @ shoulder, Post MVA				92				18				156/95			
Scapula #1, contusion @ hand index finger thumb				84				18				176/98			
and ring finger. Denies difficulty breathing!															
0130 Taken to xray by wheelchair 0150 Back															
in room #3, Dr. [redacted] bedside for exam. 0220 Fingers splinted															
to each other on @ hand middle & ring finger for fx. Ice bag applied															
to hand to see resp. @ arm placed in a sling. Teaching															
done on follow care, pt verbalized understanding.															
SIDE RAILS				IN ML				OUT ML				CHRONIC CONDITIONS, SURGERY			
												DM HTN RN ER			
LEVEL OF CONSCIOUSNESS:				LAST TETANUS				CURRENT MEDS							
Awake A&X3				> 5 yrs ago				See list							
IV TIME, SITE, SOLN, DEVISE				LMP											
PHYSICIAN'S REPORT				ALLERGIES											
Dx: Pain RT post MVA				None/KDA											
<p>75 Y.O. DM in MVA ~ 6 HRS AGO. (P) SCAPULA @ LOC, C/O PAIN in (C) SHOULDER, (R) HAND, (A) ANTERIOR CHEST WALL PAIN. DENIES HA, BLURRY VISION, NECK/BACK PAIN, CARDIAC-RELATED CP, SUP, MVA PAIN.</p> <p>PMH - CAD, W/D ME, NIDDM, HTN PS: NO EXPT, N/A PERCUTANEOUS CONTUSION OVER @ SCAPULA OROPHARYNX - CLEAR, NO CALCIFICATIONS HEENT - ROM - TRANSFER. GU - PPT. LUNGS - CLEAR CHEST - CONTUSION OVER RIB - STERNUM FROM SCAPULA GDA - ISOPHYLLINE-TERABUT EXT - @ SHOULDER - PAINFUL ROM. TENOSYNOVITIS OVER SHOULDER - NORMAL MOTION/STRENGTH/SENSATION @ HAND - PARTIAL PARESIS w/ 1ST DMP, 3RD FINGER - Fingernails - CONFUSION w/ 4th FINGER PAIN BS - EKG - 12 LEAD SIGNIF. CHANGED</p>															



NAME	DATE	TIME	FILE
Shoulder (L) series	11-11-95	11:40	
Exam			
EKG	0260		
Glucose	0210		
DIAGNOSIS		DISPOSITION	
Lung Ex (R) 4th rib area		Home DIC	
(L) Shoulder exam		Home	
		How	
		With whom	
REFERRED TO DOCTOR		RECOMMENDED DATE	CONDITION AT DISCHARGE
		1-2 days	Good
EA PHYSICIAN SIGNATURE		NURSES SIGNATURE	TIME OF DISCHARGE
			0300

# CHART COPY

## X-RAY REPORT

95

CHEST (TWO VIEWS):

CLINICAL HISTORY: Trauma.

There is an infiltrate in the left lower lobe partially obscuring the left hemidiaphragm. The right lung is clear. The cardiovascular silhouette, mediastinum, and the hila are normal.

CONCLUSION: LEFT LOWER LOBE INFILTRATE IS SUGGESTED.

LEFT SHOULDER SERIES:

There is a notched defect noted over the greater tuberosity of the humerus suggesting a healed Sachs deformity which may have developed from chronic subluxation of the humerus. No acute fractures, subluxation, or bone destruction. Degenerative changes are seen to involve the shoulder joint with hypertrophic spurs.

RIGHT HAND (FOUR VIEWS):

There is nondisplaced fracture involving the shaft and tuft of the distal phalanx of the fourth digit. There are degenerative changes involving the carpometacarpal joint of the first digit.

FACIAL BONES:

The facial bones as visualized appear normal with no fracture or bone destruction. The paranasal sinuses are normal.

M.D.

**Appendix P:**

**NASS CDS OCCUPANT ASSESSMENT FORM:**

**VEHICLE #2 CENTER REAR PASSENGER**



## OCCUPANT ASSESSMENT FORM

1. Primary Sampling Unit Number

10

2. Case Number - Stratum

9510

3. Vehicle Number

02

4. Occupant Number

03

### OCCUPANT'S CHARACTERISTICS

5. Occupant's Age

66

Code actual age at time of accident.

(00) Less than one year old (specify by month):

(97) 97 years and older

(99) Unknown

6. Occupant's Sex

2

(1) Male

(2) Female-not reported pregnant

(3) Female-pregnant-1st trimester(1st-3rd month)

(4) Female-pregnant-2nd trimester(4th-6th month)

(5) Female-pregnant-3rd trimester(7th-9th month)

(6) Female-pregnant-term unknown

(9) Unknown

7. Occupant's Height

178

Code actual height to the nearest  
centimeter.

(999) Unknown

70 inches X 2.54 = 177<sup>8</sup> centimeters

8. Occupant's Weight

093

Code actual weight to the nearest  
kilogram.

(999)Unknown

205 pounds X .4536 = 92<sup>98</sup> kilograms

9. Occupant's Role

2

(1) Driver

(2) Passenger

(9) Unknown

### OCCUPANT'S SEATING

10. Occupant's Seat Position

22

*Front Seat*

(11) Left side

(12) Middle

(13) Right side

(14) Other (specify):

(15) On or in the lap of another occupant

*Second Seat*

(21) Left side

(22) Middle

(23) Right side

(24) Other (specify):

(25) On or in the lap of another occupant

*Third Seat*

(31) Left side

(32) Middle

(33) Right side

(34) Other (specify):

(35) On or in the lap of another occupant

*Fourth Seat*

(41) Left side

(42) Middle

(43) Right side

(44) Other (specify):

(45) On or in the lap of another occupant

(97) In or on unenclosed area

(98) Other seat (specify):

(99) Unknown

11. Occupant's Posture

0

(0) Normal posture

*Abnormal posture*

(1) Kneeling or standing on seat

(2) Lying on or across seat

(3) Kneeling, standing or sitting in front of seat

(4) Sitting sideways or turned to talk with another  
occupant or to look out a rear window

(5) Sitting on a console

(6) Lying back in a reclined seat position

(7) Bracing with feet or hands on a surface in front  
of seat

(8) Other abnormal posture (specify):

(9) Unknown

**EJECTION/ENTRAPMENT**12. Ejection 0

- (0) No ejection
- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, unknown degree
- (9) Unknown

13. Ejection Area 0

- (0) No ejection
- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear
- (7) Roof
- (8) Other area (e.g., back of pickup, etc.)  
(specify): \_\_\_\_\_
- (9) Unknown

14. Ejection Medium 0

- (0) No ejection
- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify): \_\_\_\_\_

(5) Integral structure

(8) Other medium (specify): \_\_\_\_\_

(9) Unknown

15. Medium Status (Immediately Prior To Impact) 0

- (0) No ejection
- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

16. Entrapment 0

- (0) Not entrapped/exit not inhibited
- (1) Entrapped/pinned - mechanically restrained
- (2) Could not exit vehicle due to jammed doors, fire, etc.  
(specify): \_\_\_\_\_
- (9) Unknown

17. Occupant Mobility 3

- (0) Occupant fatal before removed from vehicle
- (1) Removed from vehicle while unconscious or disoriented
- (2) Removed from vehicle due to injuries
- (3) Exited vehicle with some assistance
- (4) Exited vehicle under own power
- (5) Occupant fully ejected
- (9) Unknown

## BELT SYSTEM FUNCTION

18. Manual (Active) Belt System Availability 3

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available—type unknown

*Integral Belt Partially Destroyed*

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)
- (8) Other belt (specify):

(9) Unknown

19. Manual (Active) Belt System Use 03

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify):

- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used—type unknown
- (08) Other belt used (specify):

- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat—type unknown
- (18) Other belt used with child safety seat (specify):
- (99) Unknown if belt used

20. Proper Use of Manual (Active) Belts 1

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

*Belt Used Improperly*

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify):

- (8) Other improper use of manual belt system (specify):

(9) Unknown

21. Manual (Active) Belt Failure Modes During Accident 9

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):

- (6) Broken retractor
- (7) Combination of above (specify):

- (8) Other manual belt failure (specify):

(9) Unknown

22. Shoulder Belt Upper Anchorage Adjustment 0

- (0) No shoulder belt
- (1) No upper anchorage adjustment for shoulder belt

*Adjustable shoulder Belt Upper Anchorage*

- (2) In full up position
- (3) In mid position
- (4) In full down position
- (5) Position unknown
- (9) Unknown if position has adjustable upper anchorage adjustment

23. Automatic (Passive) Belt System Availability/Function 0

- (0) Not equipped/not available
- (1) 2 point automatic belts
- (2) 3 point automatic belts
- (3) Automatic belts - type unknown

*Non-functional*

- (4) Automatic belts destroyed or rendered inoperative
- (9) Unknown

24. Automatic (Passive) Belt System Use 0

- (0) Not equipped/not available/destroyed or rendered inoperative
- (1) Automatic belt in use
- (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify):
- (3) Automatic belt use unknown
- (9) Unknown

25. Automatic (Passive) Belt System Type 0

- (0) Not equipped/not available
- (1) Non-motorized system
- (2) Motorized system
- (9) Unknown

26. Proper Use of Automatic (Passive) Belt System 0

- (0) Not equipped/not available/not used
- (1) Automatic belt used properly
- (2) Automatic belt used properly with child safety seat

*Automatic Belt Used Improperly*

- (3) Automatic shoulder belt worn under arm
- (4) Automatic shoulder belt worn behind back
- (5) Automatic belt worn around more than one person
- (6) Lap portion of automatic belt worn on abdomen
- (7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify):

- (8) Other improper use of automatic belt system (specify):
- (9) Unknown

27. Automatic (Passive) Belt Failure Modes During Accident 0

- (0) Not equipped/not available/not in use
- (1) No automatic belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):

- (6) Broken retractor
- (7) Combination of above (specify):
- (8) Other automatic belt failure (specify):

(9) Unknown

## POLICE REPORTED RESTRAINT USE

28. Police Reported Belt Use 3

- (0) None used  
 (1) Police did not indicate belt use  
 (2) Shoulder belt  
 (3) Lap belt  
 (4) Lap and shoulder belt  
 (5) Belt used, type not specified  
 (6) Child safety seat  
 (7) Automatic belt  
 (8) Other type belt, (specify):  
 (9) Police indicated "unknown"

29. Police Reported Air Bag Availability/Function 3

- (0) No air bag available  
 (1) Police did not indicate air bag availability/function  
 (2) Deployed  
 (3) Not deployed  
 (4) Unknown if deployed  
 (9) Police indicated "unknown"

Check the Primary Source Used In Determining Belt Use.

- ☐ Not equipped/not available/destroyed or rendered inoperative  
☐ Vehicle inspection  
☐ Official injury data  
☒ Driver/occupant interview  
☐ Other (specify):  
☐ Unknown if belt used

## AIR BAG SYSTEM FUNCTION

30. Frontal Air Bag System Availability/Function (This Occupant Position) 0

- (0) Not equipped/not available  
 (1) Air bag

*Non-functional*

- (2) Air bag disconnected (specify):  
 (3) Air bag not reinstalled  
 (9) Unknown

31. Frontal Air Bag System Deployment (This Occupant Position) 0

- (0) Not equipped/not available  
 (1) Deployed during accident (as a result of impact)  
 (2) Deployed inadvertently just prior to accident  
 (3) Deployed, details unknown  
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)  
 (5) Unknown if deployed  
 (7) Nondeployed  
 (9) Unknown

32. Other Than First Seat Frontal Air Bag Availability/Function (This Occupant Position) 0

- (0) Not equipped/not available  
 (1) Air bag

*Non-functional*

- (2) Air bag disconnected (specify):  
 (3) Air bag not reinstalled  
 (9) Unknown

*Specify type of "other" air bag present:*

33. Air Bag(s) Deployment, Other Than First Seat Frontal (This Occupant Position) 0

- (0) Not equipped with an "other" air bag  
 (1) Deployed during accident (as a result of impact)  
 (2) Deployed inadvertently just prior to accident  
 (3) Deployed, details unknown  
 (4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)  
 (5) Unknown if deployed  
 (7) Nondeployed  
 (9) Unknown

34. Are There Indications of Air Bag System Failure? (This Occupant Position) 0

- (0) Not equipped/not available  
 (1) No  
 (2) Yes (specify):  
 (9) Unknown

## FIRST SEAT FRONTAL AIR BAG SYSTEM EVALUATION

35. Had Vehicle Been in Previous Accident(s)? 0

- (0) Not equipped/not available  
(1) No previous accidents

Yes

- (2) Previous accident(s) without deployment(s)  
(3) One previous accident with deployment  
(4) More than one previous accident with at least one deployment  
(8) Previous accidents, unknown deployment status  
(9) Unknown

36. Type of Air Bag 0

- (0) Not equipped/not available  
(1) Original manufacturer installed system  
(2) Retrofitted air bag  
(3) Replacement air bag  
(8) Unknown type of air bag  
(9) Unknown

37. Had Any Prior Maintenance/Service Been Performed On This Air Bag System? 0

- (0) Not equipped/not available  
(1) No prior maintenance  
(2) Yes, prior maintenance (specify):  
(9) Unknown

38. Air Bag Deployment Accident Event Sequence Number 00

- (00) Not equipped/not available  
Code the accident event sequence number that initiated the air bag deployment  
(96) Deployed, unknown event  
(97) Not deployed  
(98) Unknown if deployed  
(99) Unknown

39. CDC For Air Bag Deployment Impact 0

- (0) Not equipped/not available  
(1) Highest delta V  
(2) Second highest delta V  
(3) Other non-coded delta V (specify):  
(6) Deployed, unknown event  
(7) Not deployed  
(8) Unknown if deployed  
(9) Unknown

40. Longitudinal Component of +Delta V For Air Bag - 000

Deployment Impact

(\_ 000) Not equipped/not available

Code the value of the delta V for the impact that initiated the air bag deployment

(\_ 996) Deployment, unknown longitudinal Delta V

(\_ 997) Not deployed

(\_ 998) Unknown if deployed

(\_ 999) Unknown

41. Did Air Bag Module Cover Flap(s) Open At Designated Tear Points? 0

- (0) Not equipped/not available  
(1) No  
(2) Yes  
(3) Deployed, unknown if flap(s) opened at designated tear points  
(7) Not deployed  
(8) Unknown if deployed  
(9) Unknown

42. Were Air Bag Module Cover Flap(s) Damaged? 0

- (0) Not equipped/not available  
(1) No  
(2) Yes (specify):  
(3) Deployed, unknown if air bag module cover flap(s) damaged  
(7) Not deployed  
(8) Unknown if deployed  
(9) Unknown

43. Was There Damage To The Air Bag? 00

- (00) Not equipped/not available  
(01) Not damaged

Yes - Air Bag Damage

- (02) Ruptured  
(03) Cut  
(04) Torn  
(05) Holed  
(06) Burned  
(07) Abraded  
(88) Other damage (specify):

- (95) Damaged, details unknown  
(96) Deployed, unknown if damaged  
(97) Not deployed  
(98) Unknown if deployed  
(99) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM  
EVALUATION *continued*

44. Source of Air Bag Damage 00  
 (00) Not equipped/not available  
 (01) Not damaged  
 (02) Object worn by occupant, (specify):  
 (03) Object carried by occupant, (specify):  
 (04) Adaptive/assistive controls, (specify):  
 (05) Fire in vehicle  
 (06) Thermal burns  
 (07) Rescue or emergency efforts  
 (88) Other damage source (specify):  
 (95) Damaged, unknown source  
 (96) Deployed, unknown if damaged  
 (97) Not deployed  
 (98) Unknown if deployed  
 (99) Unknown
45. Was The Air Bag Tethered? 0  
 (0) Not equipped/not available  
 (1) No  
 (2) Yes (specify number of tether straps):  
 (3) Deployed, unknown if tethered  
 (7) Not deployed  
 (8) Unknown if deployed  
 (9) Unknown
46. Did The Air Bag Have Vent Ports? 0  
 (0) Not equipped/not available  
 (1) No  
 (2) Yes (specify number of vent ports):  
 (3) Deployed, unknown if vent ports present  
 (7) Not deployed  
 (8) Unknown if deployed  
 (9) Unknown
47. Was the Air Bag in this Occupant's Position Contacted by Another Occupant? 0  
 (0) Not equipped/not available  
 (1) No  
 (2) Yes (specify):  
 (3) Deployed, unknown if other occupant contact to air bag  
 (7) Not deployed  
 (8) Unknown if deployed  
 (9) Unknown
48. Was This Occupant Wearing Eye-wear? 0  
 (0) Not equipped/not available  
 (1) No  
 (2) Eyeglasses/sunglasses  
 (3) Contact lenses  
 (4) Deployed, unknown if eyewear worn  
 (7) Not deployed  
 (8) Unknown if deployed  
 (9) Unknown

## HEAD RESTRAINT AND SEAT EVALUATION

49. Head Restraint Type/Damage by Occupant at This Occupant Position 9  
 (0) No head restraints  
 (1) Integral—no damage  
 (2) Integral—damaged during accident  
 (3) Adjustable—no damage  
 (4) Adjustable—damaged during accident  
 (5) Add-on—no damage  
 (6) Add-on—damaged during accident  
 (8) Other (specify):  
 (9) Unknown
50. Seat Type (this Occupant Position) 99  
 (00) Occupant not seated or no seat  
 (01) Bucket  
 (02) Bucket with folding back  
 (03) Bench  
 (04) Bench with separate back cushions  
 (05) Bench with folding back(s)  
 (06) Split bench with separate back cushions  
 (07) Split bench with folding back(s)  
 (08) Pedestal (i.e., column supported)  
 (09) Box mounted seat (i.e., van type)  
 (10) Other seat type (specify):  
 (99) Unknown
51. Seat Orientation (this Occupant Position) 9  
 (0) Occupant not seated or no seat  
 (1) Forward facing seat  
 (2) Rear facing seat  
 (3) Side facing seat (inward)  
 (4) Side facing seat (outward)  
 (8) Other (specify):  
 (9) Unknown
52. Seat Track Adjusted Position Prior To Impact 1  
 (0) Occupant not seated or no seat  
 (1) Non-adjustable seat track  
*Adjustable Seat Track*  
 (2) Seat at forward most track position  
 (3) Seat between forward most and middle track positions  
 (4) Seat at middle track position  
 (5) Seat between middle and rear most track positions  
 (6) Seat at rear most track position  
 (9) Unknown

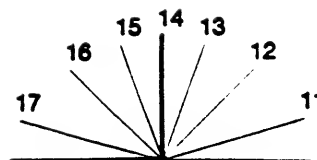


HEAD RESTRAINT AND SEAT EVALUATION *continued*53. Seat Back Incline Prior and Post Impact 01

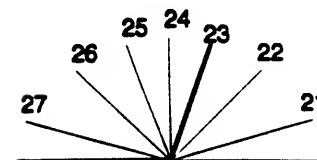
- (00) Occupant not seated or no seat  
 (01) Not adjustable

*Upright prior to impact*

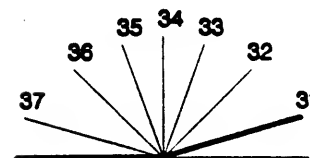
- (11) Moved to completely rearward position  
 (12) Moved to rearward midrange position  
 (13) Moved to slightly rearward position  
 (14) Retained pre-impact position  
 (15) Moved to slightly forward position  
 (16) Moved to forward midrange position  
 (17) Moved to completely forward position

*Slightly reclined prior to impact*

- (21) Moved to completely rearward position  
 (22) Moved to rearward midrange position  
 (23) Retained pre-impact position  
 (24) Moved to upright position  
 (25) Moved to slightly forward position  
 (26) Moved to forward midrange position  
 (27) Moved to completely forward position

*Completely reclined prior to impact*

- (31) Retained pre-impact position  
 (32) Moved to rearward midrange position  
 (33) Moved to slightly rearward position  
 (34) Moved to upright position  
 (35) Moved to slightly forward position  
 (36) Moved to forward midrange position  
 (37) Moved to completely forward position



(99) Unknown

54. Seat Performance (this Occupant Position) 9

- (0) Occupant not seated or no seat  
 (1) No seat performance failure(s)  
 (2) Seat adjusters failed  
 (3) Seat back folding locks or "seat back" failed (specify): \_\_\_\_\_  
 (4) Seat track/anchors failed  
 (5) Deformed by impact of occupant  
 (6) Deformed by passenger compartment intrusion, (specify): \_\_\_\_\_  
 (7) Combination of above (specify): \_\_\_\_\_  
 (8) Other (specify): \_\_\_\_\_  
 (9) Unknown

## CHILD SAFETY SEAT

55. Child Safety Seat Make/Model 000  
(000) No child safety seat  
Applicable codes are found in your NASS CDS  
Data Collection, Coding and Editing  
(950) Built-in child safety seat  
(997) Other make/model (specify):

(998) Unknown make/model  
(999) Unknown if child safety seat used

56. Type of Child Safety Seat 0  
(0) No child safety seat  
(1) Infant seat  
(2) Toddler seat  
(3) Convertible seat  
(4) Booster seat - with shield  
(5) Booster seat - without shield  
(7) Other type child safety seat (specify):

(8) Unknown child safety seat type  
(9) Unknown if child safety seat used

57. Child Safety Seat Orientation 00  
(00) No child safety seat

*Designed for Rear Facing for This Age/Weight*

(01) Rear facing  
(02) Forward facing  
(08) Other orientation (specify):

(09) Unknown orientation

*Designed For Forward Facing for This Age/Weight*

(11) Rear facing  
(12) Forward facing  
(18) Other orientation (specify):

(19) Unknown orientation

*Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight*

(21) Rear facing  
(22) Forward facing  
(28) Other orientation (specify):

(29) Unknown orientation

(99) Unknown if child safety seat used

58. Child Safety Seat Harness Usage 00

59. Child Safety Seat Shield Usage 00

60. Child Safety Seat Tether Usage 00

Note: Options below applicable to  
Variables OA58-OA60.

(00) No child safety seat

*Not Designed With Harness/Shield/Tether*

(01) After market harness/shield/tether  
added, not used  
(02) After market harness/shield/tether used  
(03) Child safety seat used, but no after market  
harness/shield/tether added  
(09) Unknown if harness/shield/tether  
added or used

*Designed With Harness/Shield/Tether*

(11) Harness/shield/tether not used  
(12) Harness/shield/tether used  
(19) Unknown if harness/shield/tether used

*Unknown If Designed With Harness/Shield/Tether*

(21) Harness/shield/tether not used  
(22) Harness/shield/tether used  
(29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

**INJURY CONSEQUENCES****61. Injury Severity (Police Rating)**2

- (0) O - No injury
- (1) C - Possible injury
- (2) B - Nonincapacitating injury
- (3) A - Incapacitating injury
- (4) K - Killed
- (5) U - Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

**62. Treatment - Mortality**4

- (0) No treatment
- (1) Fatal
- (2) Fatal - ruled disease (specify):

*Nonfatal*

- (3) Hospitalization
- (4) Transported and released
- (5) Treatment at scene - nontransported
- (6) Treatment later
- (7) Treatment - other (specify):
- (8) Transported to a medical facility-unknown if treated
- (9) Unknown

**63. Type Of Medical Facility (for Initial Treatment)**2

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):

(9) Unknown

**64. Hospital Stay**00

(00) Not Hospitalized

Code the number of days (up through 60) that the occupant stayed in hospital.

- (61) 61 days or more
- (99) Unknown

**65. Working Days Lost**97

Code the number of days (up through 60) that the occupant lost from work due to the accident

- (00) No working days lost
- (61) 61 days or more
- (62) Fatally injured
- (97) Not working prior to accident
- (99) Unknown

**STOP WORK HERE****VARIABLES 66-74****TO BE CODED BY THE ZONE CENTER**

**TO BE CODED BY THE ZONE CENTER****INJURY CONSEQUENCES****66. Time to Death**00

Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)

- (00) Not fatal  
(96) Fatal - ruled disease  
(99) Unknown

**67. 1st Medically Reported Cause of Death**00**68. 2nd Medically Reported Cause of Death**00**69. 3rd Medically Reported Cause of Death**00

Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death

- (00) Not fatal or no additional causes  
(96) Mode of death given but specific injuries are not linked to cause of death. (specify):

(97) Other result (includes fatal ruled disease) (specify):

(99) Unknown

**70. Number of Recorded Injuries for This Occupant**04

4 Code the actual number of injuries recorded for this occupant.

- (00) No recorded injuries  
(97) Injured, details unknown  
(99) Unknown if injured

**TRAUMA DATA****71. Glasgow Coma Scale (GCS) Score (at Medical Facility)**15

- (00) Not injured  
(01) Injured - not treated at medical facility  
(02) No GCS Score at medical facility  
(03-15) Code the actual value of the initial GCS Score recorded at medical facility.  
(97) Injured, details unknown  
(99) Unknown if injured

**72. Was the Occupant Given Blood?**1

- (1) No - blood not given  
(2) Yes - blood given  
(specify units):  
(9) Unknown if blood given

**73. Arterial Blood Gases (ABG) - HCO<sub>3</sub>**01

- (00) Not injured  
(01) Injured, ABGs not measured or reported  
(02-50) Code the actual value of the HCO<sub>3</sub>  
(96) ABGs reported, HCO<sub>3</sub> unknown  
(97) Injured, details unknown  
(99) Unknown if injured

**BELT USE DETERMINATION****74. Primary Source of Belt Use Determination**3

- (0) Not equipped/not available/destroyed or rendered inoperative  
(1) Vehicle inspection  
(2) Official injury data  
(3) Driver/occupant interview  
(8) Other (specify):  
(9) Unknown if belt used

**Appendix Q:**

**NASS CDS OCCUPANT INJURY FORM:**

**VEHICLE #2 RIGHT REAR PASSENGER**



U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

# OCCUPANT INJURY FORM

Form Approved  
O.M.B. No. 2127-0021  
NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number

10

3. Vehicle Number

02

2. Case Number - Stratum

9510

4. Occupant Number

03

## INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

Source of Injury Data	Body Region	A.I.S. - 90				Injury Source	Injury Confidence Level	Direct/Indirect Injury	Occupant Area Intrusion Number		
		Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury	A.I.S. Severity					Aspect	
Contusion over ① parietal	5. <u>3</u>	6. <u>1</u>	7. <u>9</u>	8. <u>04</u>	9. <u>02</u>	10. <u>1</u>	11. <u>2</u>	12. <u>155</u>	13. <u>2</u>	14. <u>1</u>	15. <u>99</u>
Contusion ② lateral 2nd thigh	16. <u>3</u>	17. <u>8</u>	18. <u>9</u>	19. <u>04</u>	20. <u>02</u>	21. <u>1</u>	22. <u>2</u>	23. <u>151</u>	24. <u>3</u>	25. <u>1</u>	26. <u>99</u>
Contusion ③ 3rd	27. <u>7</u>	28. <u>4</u>	29. <u>5</u>	30. <u>02</u>	31. <u>02</u>	32. <u>1</u>	33. <u>2</u>	34. <u>151</u>	35. <u>2</u>	36. <u>1</u>	37. <u>99</u>
Contusion ④ 4th	38. <u>7</u>	39. <u>7</u>	40. <u>9</u>	41. <u>04</u>	42. <u>02</u>	43. <u>1</u>	44. <u>2</u>	45. <u>151</u>	46. <u>2</u>	47. <u>1</u>	48. <u>99</u>
5th	49. <u>  </u>	50. <u>  </u>	51. <u>  </u>	52. <u>  </u>	53. <u>  </u>	54. <u>  </u>	55. <u>  </u>	56. <u>  </u>	57. <u>  </u>	58. <u>  </u>	59. <u>  </u>
6th	60. <u>  </u>	61. <u>  </u>	62. <u>  </u>	63. <u>  </u>	64. <u>  </u>	65. <u>  </u>	66. <u>  </u>	67. <u>  </u>	68. <u>  </u>	69. <u>  </u>	70. <u>  </u>
7th	71. <u>  </u>	72. <u>  </u>	73. <u>  </u>	74. <u>  </u>	75. <u>  </u>	76. <u>  </u>	77. <u>  </u>	78. <u>  </u>	79. <u>  </u>	80. <u>  </u>	81. <u>  </u>
8th	82. <u>  </u>	83. <u>  </u>	84. <u>  </u>	85. <u>  </u>	86. <u>  </u>	87. <u>  </u>	88. <u>  </u>	89. <u>  </u>	90. <u>  </u>	91. <u>  </u>	92. <u>  </u>
9th	93. <u>  </u>	94. <u>  </u>	95. <u>  </u>	96. <u>  </u>	97. <u>  </u>	98. <u>  </u>	99. <u>  </u>	100. <u>  </u>	101. <u>  </u>	102. <u>  </u>	103. <u>  </u>
10th	104. <u>  </u>	105. <u>  </u>	106. <u>  </u>	107. <u>  </u>	108. <u>  </u>	109. <u>  </u>	110. <u>  </u>	111. <u>  </u>	112. <u>  </u>	113. <u>  </u>	114. <u>  </u>

OCCUPANT INJURY DATA											
Source of Injury Data	A.I.S. - 90						Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion Number	
	Body Region	Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury	A.I.S. Severity	Aspect					
11th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
12th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
13th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
14th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
15th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
16th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
17th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
18th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
19th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
20th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
21st	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
22nd	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
23rd	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
24th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —
25th	—	—	—	— — —	— — —	—	—	— — — —	—	—	— — —

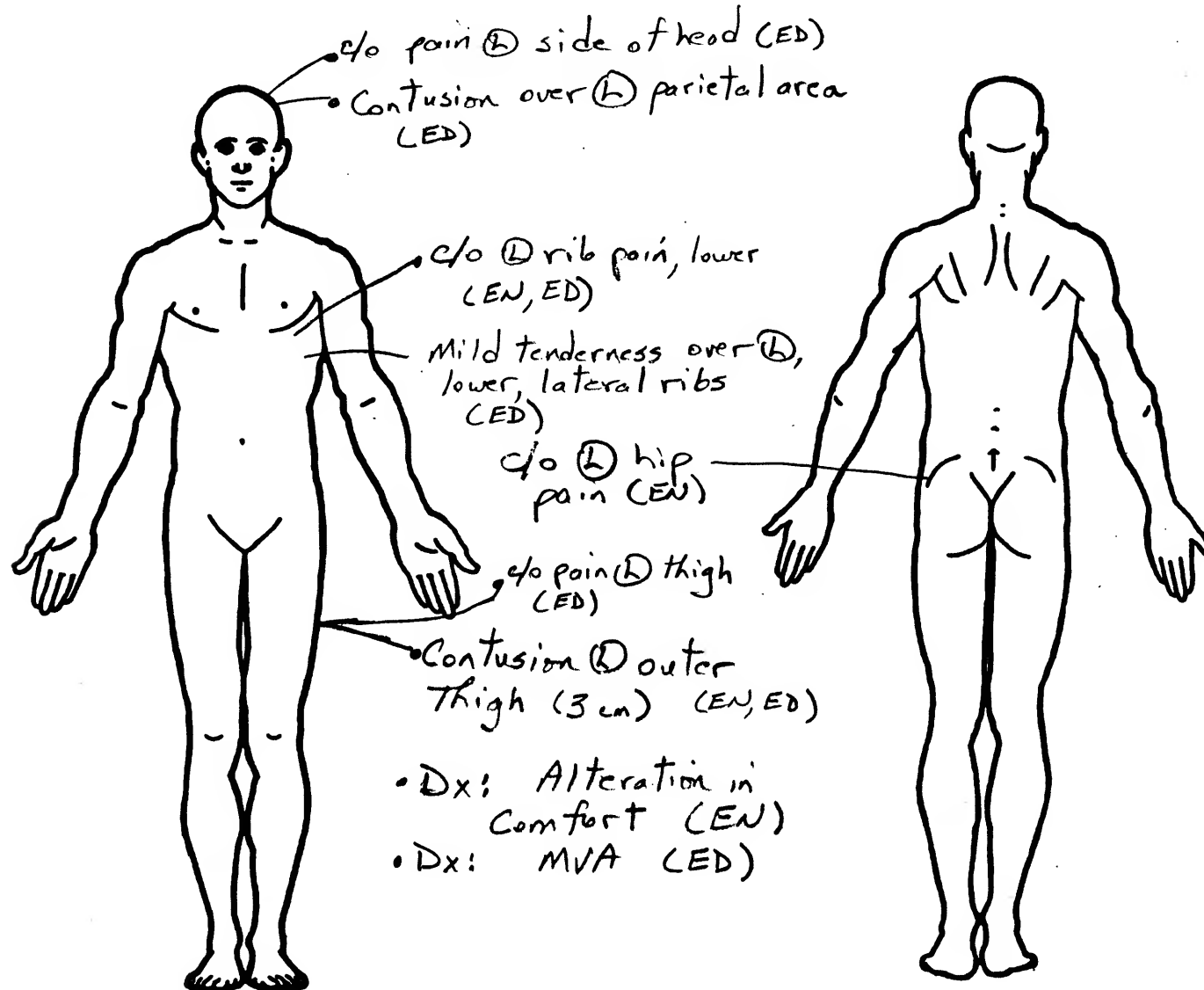
		A.I.S. - 90						Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion Number
Source of Injury Data	Body Region	Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury	A.I.S. Severity	Aspect	Injury Source			
11th	---	---	---	---	---	---	-----	---	---	---
12th	---	---	---	---	---	---	-----	---	---	---
13th	---	---	---	---	---	---	-----	---	---	---
14th	---	---	---	---	---	---	-----	---	---	---
15th	---	---	---	---	---	---	-----	---	---	---
16th	---	---	---	---	---	---	-----	---	---	---
17th	---	---	---	---	---	---	-----	---	---	---
18th	---	---	---	---	---	---	-----	---	---	---
19th	---	---	---	---	---	---	-----	---	---	---
20th	---	---	---	---	---	---	-----	---	---	---
21st	---	---	---	---	---	---	-----	---	---	---
22nd	---	---	---	---	---	---	-----	---	---	---
23rd	---	---	---	---	---	---	-----	---	---	---
24th	---	---	---	---	---	---	-----	---	---	---
25th	---	---	---	---	---	---	-----	---	---	---

# OFFICIAL INJURY DATA — SOFT TISSUE INJURIES

Ambulatory @ scene (EN, ED)

• c/o pain when moved (EN)

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)



• Dx: Alteration in Comfort (EN)  
• Dx: MVA (ED)



## OCCUPANT INJURY CLASSIFICATION

Body Region	Specific Anatomic Structure	Level of Injury	Aspect
(1) Head		Specific injuries are assigned consecutive two-digit numbers beginning with 02.	(1) Right
(2) Face			(2) Left
(3) Neck	<u>Vessels, Nerves, Organs.</u>	To the extent possible, within the organizational framework of the AIS, 00 is assigned to an injury NFS as to severity or where only one injury is given in the dictionary for that anatomic structure. 99 is assigned to any injury NFS as to lesion or severity.	(3) Bilateral
(4) Thorax	<u>Bones, Joints</u> are assigned consecutive two digit numbers beginning with 02.		(4) Central
(5) Abdomen		The exceptions to this rule apply to:	(5) Anterior
(6) Spine			(6) Posterior
(7) Upper Extremity			(7) Superior
(8) Lower Extremity			(8) Inferior
(9) Unspecified			(9) Unknown
			(0) Whole region
Type of Anatomic Structure	Whole Area	Abbreviated Injury Scale	
(1) Whole Area	(02) Skin - Abrasion	(1) Minor Injury	
(2) Vessels	(04) Skin - Contusion	(2) Moderate Injury	
(3) Nerves	(06) Skin - Laceration	(3) Serious Injury	
(4) Organs (includes Muscles/ligaments)	(08) Skin - Avulsion	(4) Severe Injury	
(5) Skeletal (includes joints)	(10) Amputation	(5) Critical Injury	
(6) Head - LOC	(20) Burn	(6) Maximum (untreatable)	
(9) Skin	(30) Crush	(7) Injured, unknown severity	
	(40) Degloving		
	(50) Injury - NFS		
	(90) Trauma, other than mechanical		
	<u>Head - LOC</u>		
	(02) Length of LOC		
	(04) Level		
	(06) of		
	(08) Consciousness		
	(10) Concussion		
	<u>Spine</u>		
	(02) Cervical		
	(04) Thoracic		
	(06) Lumbar		

## SOURCE OF INJURY DATA

## INJURY SOURCE

## DIRECT/INDIRECT INJURY

## CONFIDENCE LEVEL

OFFICIAL RECORDS

- (1) Autopsy records with or without hospital/medical records
- (2) Hospital/medical records other than emergency room (e.g., discharge summary)
- (3) Emergency room records only (including associated X-rays or other lab reports)
- (4) Private physician, walk-in or emergency clinic

UNOFFICIAL RECORDS

- (5) Lay coroner report
- (6) E.M.S. personnel
- (7) Interviewee
- (8) Other source (specify): \_\_\_\_\_
- (9) Police

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

- (1) Direct contact injury
- (2) Indirect contact injury
- (3) Noncontact injury
- (7) Injured, unknown source

# OFFICIAL INJURY DATA — SKELETAL INJURIES

Restrained?

☐ No  
☒ Yes

Blood Alcohol  
Level (mg/dl)

BAL = \_\_\_\_

Glasgow Coma  
Scale Score

GCSS = 15  
(EN)

Units of Blood  
Given

Units = \_\_\_\_

Arterial Blood  
Gases

pH = \_\_\_\_

PO<sub>2</sub> = \_\_\_\_

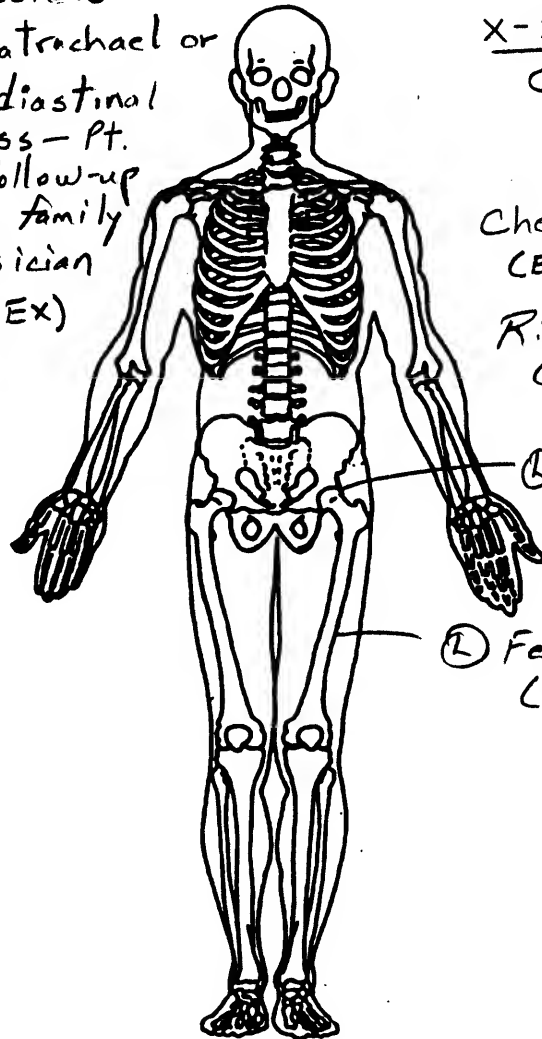
PCO<sub>2</sub> = \_\_\_\_

HCO<sub>3</sub> = \_\_\_\_

① Seatbelt (ED)

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

• Possible  
Paratracheal or  
mediastinal  
mass - Pt.  
to follow-up  
with family  
physician  
(CED, EX)



X-Rays:

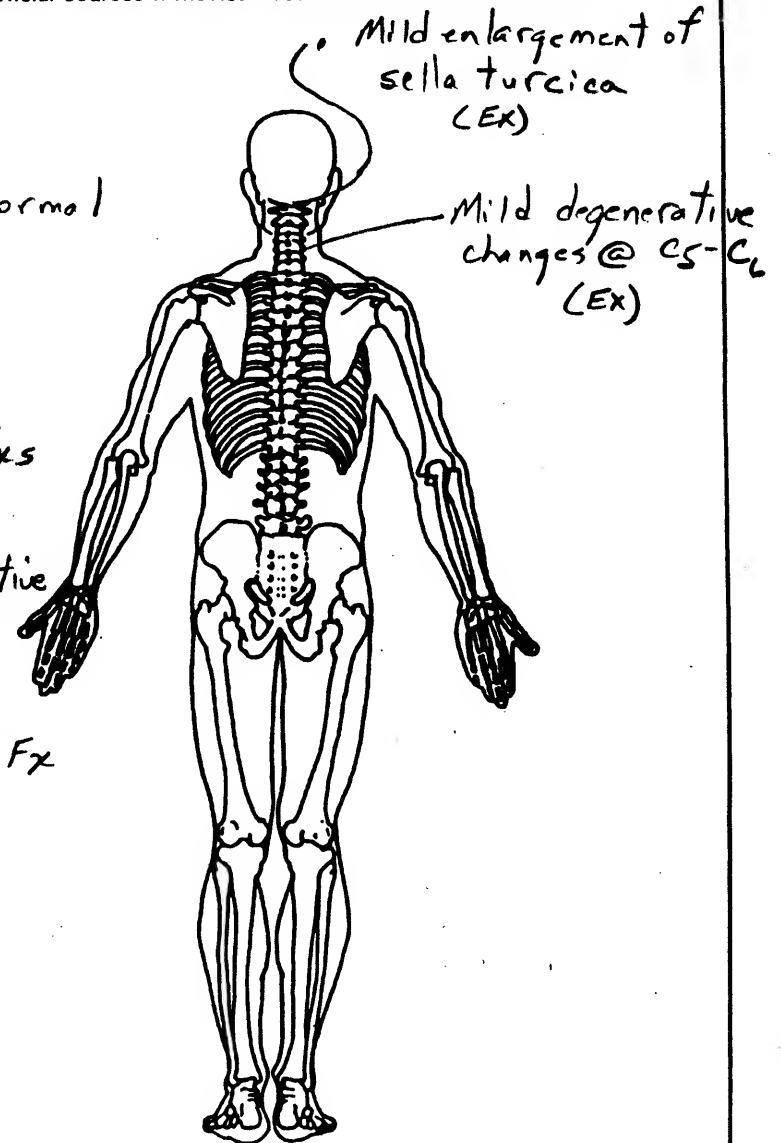
C-Spine: Normal  
(ED, EX)

Chest: clear  
(ED, EX)

Ribs: No Fxs  
(ED, EX)

① Hip: Negative  
(EX)

② Femur: No Fx  
(EX)



## INJURY SOURCES

### FRONT

- (001) Windshield
- (002) Mirror
- (003) Sunvisor
- (004) Steering wheel rim
- (005) Steering wheel hub/spoke
- (006) Steering wheel (combination of codes 004 and 005)
- (007) Steering column, transmission selector lever, other attachment
- (008) Cellular telephone or CB radio
- (009) Add on equipment (e.g., tape deck, air conditioner)
- (010) Left instrument panel and below
- (011) Center instrument panel and below
- (012) Right instrument panel and below
- (013) Glove compartment door
- (014) Knee bolster
- (015) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (016) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
- (017) Windshield reinforced by exterior object (specify): \_\_\_\_\_
- (019) Other front object (specify): \_\_\_\_\_

### LEFT SIDE

- (051) Left side interior surface, excluding hardware or armrests
- (052) Left side hardware or armrest
- (053) Left A (A1/A2)-pillar
- (054) Left B-pillar
- (055) Other left pillar (specify): \_\_\_\_\_
- (056) Left side window glass
- (057) Left side window frame
- (058) Left side window sill
- (059) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (060) Other left side object (specify): \_\_\_\_\_

### RIGHT SIDE

- (101) Right side interior surface, excluding hardware or armrests

- (102) Right side hardware or armrest
- (103) Right A (A1/A2)-pillar
- (104) Right B-pillar
- (105) Other right pillar (specify): \_\_\_\_\_
- (106) Right side window glass
- (107) Right side window frame
- (108) Right side window sill
- (109) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (110) Other right side object (specify): \_\_\_\_\_

### INTERIOR

- (151) Seat, back support
- (152) Belt restraint webbing/buckle
- (153) Belt restraint B-pillar or door frame attachment point
- (154) Other restraint system component (specify): \_\_\_\_\_
- (155) Head restraint system
- (160) Other occupants (specify): \_\_\_\_\_
- (161) Interior loose objects
- (162) Child safety seat (specify): \_\_\_\_\_
- (163) Other interior object (specify): \_\_\_\_\_

### AIR BAG

- (170) Air bag-driver side
- (171) Air bag-driver side and eyewear
- (172) Air bag-driver side and jewelry
- (173) Air bag-driver side and object held
- (174) Air bag-driver side and object in mouth
- (175) Air bag compartment cover-driver side
- (176) Air bag compartment cover-driver side and eyewear
- (177) Air bag compartment cover-driver side and jewelry
- (178) Air bag compartment cover-driver side and object held
- (179) Air bag compartment cover-driver side and object in mouth
- (180) Air bag-passenger side
- (181) Air bag-passenger side and eyewear
- (182) Air bag-passenger side and jewelry

- (183) Air bag-passenger side and object held
- (184) Air bag-passenger side and object in mouth
- (185) Air bag compartment cover-passenger side
- (186) Air bag compartment cover-passenger side and eyewear
- (187) Air bag compartment cover-passenger side and jewelry
- (188) Air bag compartment cover-passenger side and object held
- (189) Air bag compartment cover-passenger side and object in mouth
- (190) Other air bag (specify): \_\_\_\_\_
- (195) Other air bag compartment cover (specify): \_\_\_\_\_

### ROOF

- (201) Front header
- (202) Rear header
- (203) Roof left side rail
- (204) Roof right side rail
- (205) Roof or convertible top

### FLOOR

- (251) Floor (including toe pan)
- (252) Floor or console mounted transmission lever, including console
- (253) Parking brake handle
- (254) Foot controls including parking brake

### REAR

- (301) Backlight (rear window)
- (302) Backlight storage rack, door, etc.
- (303) Other rear object (specify): \_\_\_\_\_

### ADAPTIVE (ASSISTIVE) DRIVING EQUIPMENT

- (401) Hand controls for braking/acceleration
- (402) Steering control devices (attached to OEM steering wheel)
- (403) Steering knob attached to steering wheel
- (405) Replacement steering wheel (i.e., reduced diameter)
- (406) Joy stick steering controls
- (407) Wheelchair tie-downs
- (408) Modification to seat belts, (specify): \_\_\_\_\_
- (409) Additional or relocated switches, (specify): \_\_\_\_\_
- (410) Raised roof

- (411) Well mounted head rest (used behind wheel chair)
- (412) Other adaptive device (specify): \_\_\_\_\_

### EXTERIOR OF OCCUPANT'S VEHICLE

- (451) Hood
- (452) Outside hardware (e.g., outside mirror, antenna)
- (453) Other exterior surface or tires (specify): \_\_\_\_\_
- (454) Unknown exterior objects

### EXTERIOR OF OTHER MOTOR VEHICLE

- (501) Front bumper
- (502) Hood edge
- (503) Other front of vehicle (specify): \_\_\_\_\_
- (504) Hood
- (505) Hood ornament
- (506) Windshield, roof rail, A-pillar
- (507) Side surface
- (508) Side mirrors
- (509) Other side protrusions (specify): \_\_\_\_\_
- (510) Rear surface
- (511) Undercarriage
- (512) Tires and wheels
- (513) Other exterior of other motor vehicle (specify): \_\_\_\_\_
- (514) Unknown exterior of other motor vehicle

### OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT

- (551) Ground
- (598) Other vehicle or object (specify): \_\_\_\_\_
- (599) Unknown vehicle or object

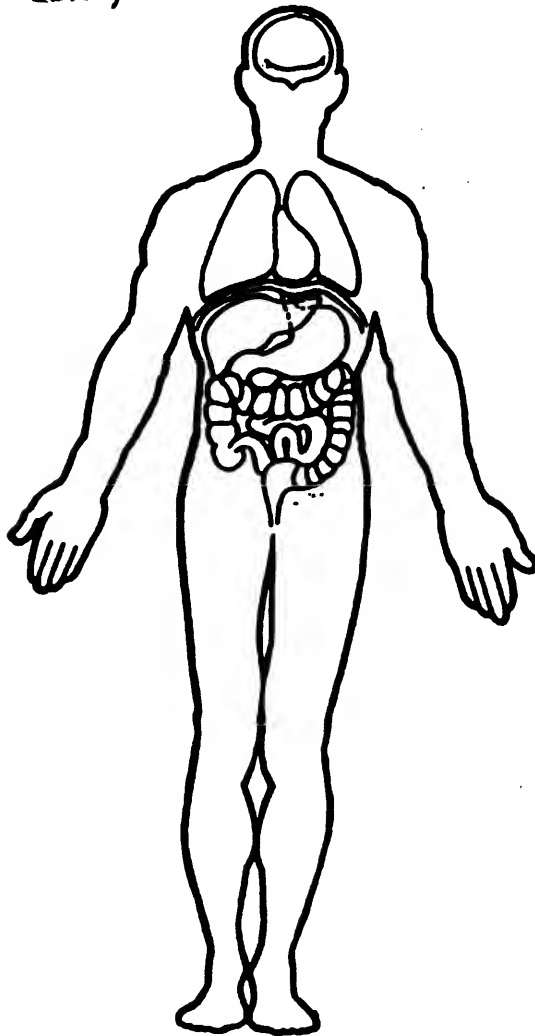
### NONCONTACT INJURY

- (601) Fire in vehicle
- (602) Flying glass
- (603) Other noncontact injury source (specify): \_\_\_\_\_
- (604) Air bag exhaust gases
- (697) Injured, unknown source

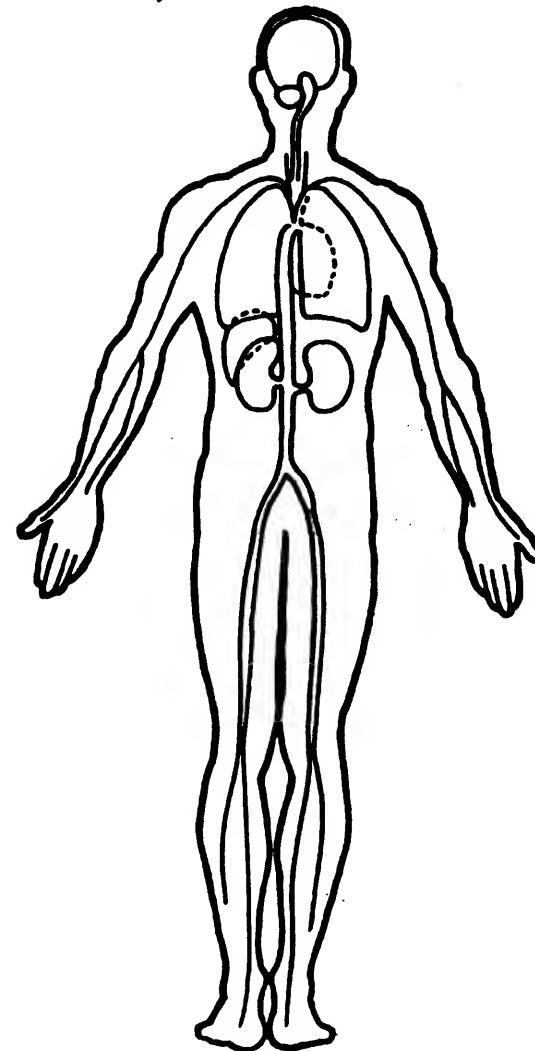
# OFFICIAL INJURY DATA — INTERNAL INJURIES

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

Ax O<sub>x</sub> 3  
(EN)



⊖ LOC, Denies blurred vision  
(ED)



## CAUSE OF DEATH

## ICD-9-CM

### OTHER DRUGS (GV16)

Specimen Test Type	Drug(s)	Drug Type
<input type="checkbox"/> Blood and urine tests <input type="checkbox"/> Blood test only <input type="checkbox"/> Urine test only <input type="checkbox"/> Other test <input type="checkbox"/> Unspecified		

### MEDICAL RECORD ABBREVIATIONS

Symbol	Record Type Description
<b>A</b>	Autopsy—medical information based upon an invasive examination of a body
<b>ME</b>	Medical examiner's record—where the information reported on the patient is based on a non-invasive examination of the body
<b>AR</b>	Admission record/summary—any medical information on this record should be considered as post-ER since it summarizes the patient's admission; these records are common in short hospitalizations and usually only contain: admission DX(s), final DX(s), and a listing of surgical treatments; ICD-9-CM codes are frequently available.
<b>FS</b>	Admission/discharge face sheet—face sheets are essentially the same as admission record/summaries and contain the same types of information as discussed above
<b>DS</b>	Discharge summary—shorten history of a patient's hospitalization highlighting the patient's major injuries; this record is often written from the perspective of its author which in many cases is a consultant
<b>OS</b>	Operative record—summary of a performed surgical operation often providing detailed information about a specific trauma; patients who survive the surgery are normally admitted; thus, this record is normally considered post-ER; however, if this record results from an outpatient surgery, then treat it as emergency-room related
<b>FX</b>	Radiographic records—taken after the patient has been admitted, or while in surgery or intensive care
<b>PN</b>	Patient progress notes—supplemental record containing additional nurses notes taken after the patient's admission
<b>HP</b>	History and physical exam—medical history and the results of the physical exam obtained by the emergency room physician assigned to the patient upon arrival at the emergency room
<b>CN</b>	Consultation record—consultations are in essence additional history and physical exams performed by doctors whose expertise was requested by the emergency room physician; the consultation may occur during the emergency room visit or after admission
<b>ER</b>	Emergency room report—where the author of this information is undefined
<b>EN</b>	Emergency room nurse—"nurse/complaint of" section on the emergency room report
<b>ED</b>	Emergency room doctor—"objective/physical exam" section plus "diagnosis and treatment" sections (i.e., doctor portion of emergency room report)
<b>NN</b>	Nurse notes—supplemental record containing additional notes taken by the emergency room nurse(s)
<b>EX</b>	Radiographic records—taken during the patients stay in the emergency room
<b>CV</b>	Coroner's verdict—statement of cause of death for legal specific regarding injuries; care must be exercised to ascertain the credentials of the verdict's author.
<b>CR</b>	Coroner's report—medical information based upon a noninvasive examination performed by a person who is not a doctor but who has the title of a coroner
<b>ET</b>	Emergency medical technician—report by a person who qualifies as an emergency medical services technician (EMS or EMT)
<b>O</b>	Other source—medical information based on an other source (e.g., newspaper, DVM—Doctor of Veterinary Medicine)

664-2. DF, PM MVA, AMBULATORY AT SCENE. (P) SHARFIELD @ LOC.  
 C/O PAIN (L) SIDE OF HEAD, (L) LOWER ABD PAIN, (L) ~~THIGH~~ PAIN.  
 DENIES HTA, BURNED VISION, ~~HEAD/BACK~~ PAIN, CHEST PAIN, SOB, SOB PAIN.  
 Pmta - HTAL, MEDIAN, COPA, CMA.  
 PE: ALBINO, MARD  
 HEENT - HC/NT, COMUSION OVER (L) PARIAL AREA, REAL.  
 RT PUPIL, BONE  
 NECK - MONI-TENSION CV - MVA LUNGS - CLEAR otherwise  
 CHEST - MED TENDERNESS OVER (L) LOWER LATERAL RIBS  
 ABD - MILD RAMPAN PAIN TO (L) RIBS, QW-SOFT, MONI-TENSION  
 EXT - COMUSION OVER (L) LATERAL THIGH.  
 X-RAYS:  
 C-SPINE - NORMAL CXR - CLEAR  
 RIBS - QFR  
 I&O - QST SEGMENT CHANGES  
 RS - 176

7/25/95  
 Radiology has mass  
 medial tined + will  
 notified her  
 pt with her  
 for doctor.

PHYSICIANS ORDERS		TIME INITIAL	TIME INITIAL	TIME INITIAL
Diagnosis, CXR				
(P) <del>HEENT</del> FEMUR	2410			Eval still has pain & movement.
C-spine	2320			
ERL	2340			
GLUCOMETEST (176)				
MAGNOSIS		DISPOSITION		
MVA		Home D/C		
		WHERE		Home
		HOW		PT
		WITH WHOM		Husband
REFERRED TO DOCTOR		RECOMMENDED DATE	CONDITION AT DISCHARGE	
PHYSICIAN SIGNATURE		1-2 days	Good	
		NURSES SIGNATURE		TIME OF DISCHARGE
				0200

CHART COPY

**HOSPITAL**

TEXAS

REG DATE: **05/05/95** ROOM OUTPATIENT RECORDREG TIME: **22:48**

<b>HOSPITAL</b>				1. MEDICAL RECORD NO.		2. BILLING NO.		3. A/R NO.	
<b>TX</b>				4. CLASS <b>ED</b>		5. DATE <b>05-05-95</b>		6. TIME <b>22:48</b>	
10. PATIENT'S LEGAL NAME (L.F.M.I.)				11. SEX <b>F</b>	12. RACE <b>B</b>	13. BIRTH DATE	14. AGE <b>066</b>	15. HEIGHT	16. WEIGHT
20. PR				21. NOTIFY IN EMERGENCY <b>0 NONE TO GIVE</b>		22. HOME TELE		23. WORK TELE	
25. C. COMPLAINT 26. <b>INVOLVED IN MVA</b>				27. PROC CD		28. PROCEDURE		29. LOC	
32. PHYSICIAN CALLED				33. ATTENDING PHYSICIAN		34. FAMILY PHYSICIAN		31. ANES	
DATE OF ACCIDENT		TIME		SITE OF ACCIDENT		WITNESS <b>Arrived</b>		POLICE OFFICERS NAME	
CHIEF COMPLAINT/ NURSING ASSESSMENT				CONDITION ON ADMISSION		NOTIFIED TIME		MD <input type="checkbox"/> / <input type="checkbox"/> PERSONAL MD <input type="checkbox"/>	
via EMS - l/b w/ pain @ & @				98°		84°		20	
Hip Ankle @ seen. POE dislocated				88°		18		743/82	
Clothing removed Contusion @				82°		18		136/84	
Q. enters thigh approx 3cm. C/O pain when moved.									
N/A 02340 resting quietly waiting for xray of neck & ribs.									
Pulmed IV infusing @ KVO site healthy. O2/O taken for xray for film.									
O2/O Back from x-ray. In bedside for exam. 0130 IV									
removed from @ for arm. Dis applied. 0150 Teaching done on FLU care pt verbalized									
SIDE RAILS: <b>X 2</b>		IN mL		OUT mL		CHRONIC CONDITIONS, SURGERY <b>H/T N, Cardiac, NIDDM</b>			
LEVEL OF CONSCIOUSNESS: <b>AA OX 3</b>		LAST TETANUS <b>Unknown</b>		LMP <b>NA</b>		CURRENT MEDS: <b>Cetapres</b> <b>HA pill</b> <b>Diabetes pill</b> <b>Anaprox</b> <b>Ventolin Puffer</b>			
IV TIME, SITE, SOLN, DEVISE <b>@ AC - NS. TKD</b>				ALLERGIES <b>Alst in compant (neg Dd) PCN</b>					

EXAMINATION REQUESTED		① Hip		<input type="checkbox"/> AMBULATORY
REASON FOR REQUEST		MCA		<input type="checkbox"/> WHEELCHAIR
SPECIAL INSTRUCTIONS				<input type="checkbox"/> STRETCHER
DATE OF REQUEST		DATE EXAM TO BE DONE		<input type="checkbox"/> PORTABLE
X-RAY NO.		11-95		66
TECHNICIAN		ALLERGY		NURSE'S SIGNATURE

PLEASE DO NOT WRITE BELOW THIS LINE

## X-RAY REPORT

11/1/95

### LEFT HIP SERIES:

There are degenerative changes involving the left hip joint with joint space narrowing and hypertrophic spurring. No fractures, subluxation, or bone destruction is seen. The soft tissues are normal.

, M.D.

DD/DT: 11/1/95



EXAMINATION REQUESTED <i>Left femur, CXR</i>		<input type="checkbox"/> AMBULATORY	
REASON FOR REQUEST <i>C - Spine, Ribs, Hip</i>		<input type="checkbox"/> WHEELCHAIR	
<i>MVA</i>		<input checked="" type="checkbox"/> STRETCHER	
SPECIAL INSTRUCTIONS		<input type="checkbox"/> PORTABLE	
DATE OF REQUEST <i>9/5</i>	DATE WHEN TO BE DONE <i>9/5</i>	REQUESTING DOCTOR	
TECHNICIAN	ALLERGY	NURSE'S SIGNATURE	
AGE		DATE OF BIRTH	

PLEASE DO NOT WRITE BELOW THIS LINE

## X-RAY REPORT

*95*

### CHEST (TWO VIEWS):

CLINICAL HISTORY: MVA, trauma.

The cardiovascular silhouette and the hila are normal. There is a soft tissue density in the right paratracheal region extending up to the right hilum, this may suggest a right paratracheal mass and clinical correlation is suggested. Comparison with previous radiographs and/or CT scanning of the chest is recommended for further evaluation. The lung fields are free of active infiltrates or effusions. The bony thorax is unremarkable.

CONCLUSION: RIGHT PARATRACHEAL SOFT TISSUE MASS OR DENSITY NEEDS FURTHER EVALUATION.

### LEFT RIB SERIES:

The left ribs as visualized appear normal with no fracture or bone destruction. No pneumothorax is seen. No infiltrates or pleural effusions are seen.

### LEFT FEMUR:

The left femur is normal with no fracture or bone destruction. The soft tissues are normal.

, M.D.

DD/DT: *9/5*

EXAMINATION REQUESTED		C-spine Skull		<input type="checkbox"/> AMBULATORY
REASON FOR REQUEST		MVA		<input type="checkbox"/> WHEELCHAIR
				<input type="checkbox"/> STRETCHER
SPECIAL INSTRUCTIONS				<input type="checkbox"/> PORTABLE
DATE OF REQUEST	DATE	TIME	95	REQUESTING DOCTOR
X-RAY NO.	TECH	ALLERGY		NURSE'S SIGNATURE
				AGE 66 DATE OF BIRTH

PLEASE DO NOT WRITE BELOW THIS LINE

## X-RAY REPORT

95

### CERVICAL SPINE SERIES:

The vertebral bodies are well aligned. The heights of the vertebral bodies appear normal. The intervertebral disk spaces are narrowed at C5-6. Small osteophytes are noted over C5-6. The prevertebral soft tissues are normal.

CONCLUSION: MILD DEGENERATIVE CHANGE OF C5-6.

### SKULL SERIES:

The bony calvarium is normal. The sella is mildly enlarged. The floors of the cranial fossa appear normal. The paranasal sinuses are normal and no fractures are seen.

CONCLUSION: MILD ENLARGEMENT OF THE SELLA TURCICA.

, M.D.

DD/DT: 95

HOSPITAL LABORATORY

PAGE: 1

, TEXAS

HOSPITAL

PATIENT:   
 AGE: 0 YRS SEX: F

SAMPLE ID:   
 DRWN: / 95 23:25   
 RCVD: / 95   
 PRNTD: / 95 23:43

, TX

PATIENT ID NO.:   
 COLLECTION TECH:

ROOM...: ER

\*\* COMPLETE REPORT \*\*

ATTENDING PHYS:

TEST NAME	NORMAL	OUT OF RANGE	UNITS	REFERENCE RANGE
GLUCOSE, SERUM		176 H	MG/DL	

DIRECTORS:

, M.D.

**Appendix R:**

**EXCERPTS FROM MEDICAL TEXTBOOKS**

The following material was taken from Chapter 12: Fractures and Dislocations of the Spine, Treatment of Specific Fractures, pages 1022 and 1023 of the book cited below.

FRACTURES THROUGH THE PEDICLE OF C<sub>2</sub>--TRAUMATIC  
SPONDYLOLISTHESIS (HANGMAN'S FRACTURE)

The fracture through the pedicle of C<sub>2</sub> is termed the *Hangman's fracture* because it was the ideal lesion inflicted in a judicial hanging. A displaced fracture at the C<sub>2</sub> level, caused by sudden extension forces, produces sudden death by respiratory paralysis instead of a slow death by strangulation. When seen clinically, this lesion most commonly results from sudden deceleration vehicular accidents produced by an axial load as the head strikes the windshield in the extended position. A better name for this injury is traumatic spondylolisthesis of C<sub>2</sub> on C<sub>3</sub>.

~~Redacted text~~ M.D. a ~~Redacted text~~ M.D. E ~~Redacted text~~, 1984.

The following material was taken from Chapter 4: Practical Biomechanics of Spine Trauma, pages 208, 210 through 212, and 268 of the book cited below.

### TRAUMATIC SPONDYLOLISTHESIS OF THE AXIS, OR "*HANGMAN'S FRACTURE*"

There is a very important biomechanical consideration related to the phenomenon of judicial hanging. A considerable amount of information has been generated that relates radiographs and autopsy finding to a known mechanism of injury in a living human being. When the clinician observes similar failure patterns in different patients, a similar mechanism can be presumed to have been operative.

The hangman's fracture is a fracture of the second cervical vertebrae that separates the anterior from the posterior elements of the vertebra. An example is shown in Figure 4-28. Thus, the fracture occurs in the most anterior portion of the lateral masses, or into the pedicle area of the vertebra. This fracture may be associated with fractures of other spinous processes or fractures involving the vertebral body of  $C_3$ . There may be no associated neurologic finding, or there may be symptoms ranging from nerve root irritation to complete flaccid paralysis. There are several works that thoroughly describe this injury."

#### *Mechanism of Injury*

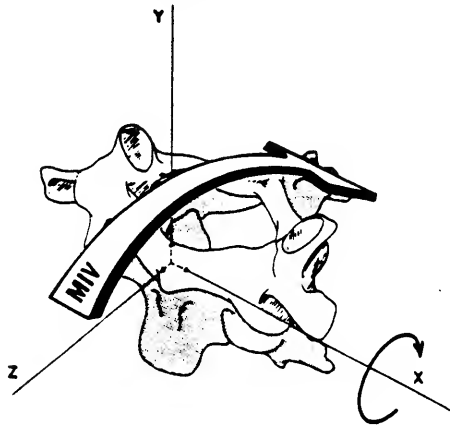
In judicial hanging with the submental knot, a number of observers have confirmed the lesion commonly known as hangman's fracture. In association with the fracture of the area between the two articular facets of  $C_2$ , there are several other injuries. There may be complete disruption of the annulus fibrosus, with a dislocation of  $C_2$  on  $C_3$ . Similar injuries are seen in automobile and diving accidents. Certainly, with the submental position of the rope, it is possible to document an extension-distraction type of injury in judicial hanging. The moment exerted on the dens and the body of  $C_2$  may also create tensile forces on the intervertebral disc and may sometimes result in an associated failure of that structure, with the possibility of large displacement between the anterior elements. Cornish observed disruption of the annulus in specimens that he studied." The posterior ligamentous structures are thought to remain intact as they are compressed. Figure 4-29 gives a diagrammatic representation of the hangman's fracture.

There are some interesting anatomic considerations that are relevant here. The transverse foramen for the vertebral artery is in the region of the pedicle (isthmus) of  $C_2$ ." Because of this foramen and the configuration of the neural arch, the structure of  $C_2$  in this region has a relatively low area moment of inertia to bending in the sagittal plane. This may be a factor in determining the site of failure. In addition, there is another structural consideration. The occipital-atlanto-axial complex has other characteristics that indicate failure at the pedicle (isthmus). The large extension force creates a bending moment on the dens so that it rotates in the sagittal plane about the -x-axis (Figure 4-30). This bending moment is balanced by two forces--the tensile force produced in the anterior longitudinal ligament, the disc, and the posterior longitudinal ligament on one side, and a compressive joint reaction force between the facet joints of  $C_2$  and  $C_3$  on the other side. These two equal and opposite forces create the balancing bending moment. The effect of all of these loads is the production of maximum bending moment in the region of the par interarticularis. Because the cross-section of the bone is small, this site is the weakest and thus the most susceptible to fracture during the type of load that results in a hangman's fracture.<sup>E</sup>

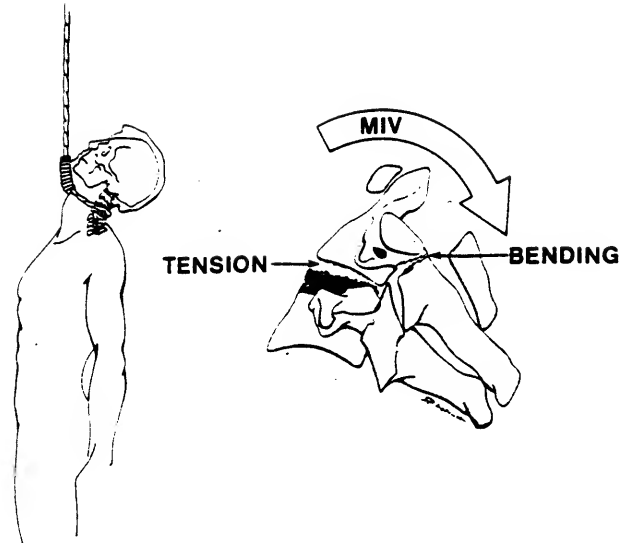
#### *Discussion*

Traumatic spondylolisthesis is an appropriate name for this fracture, because the defect occurs in the posterior elements as a result of trauma. The emotionally charged appellation of "hangman's fractures" will no doubt continue, despite the fact that this form of execution is not very common, and it is really the "hangee" rather than the "hanger" who owns the fracture.

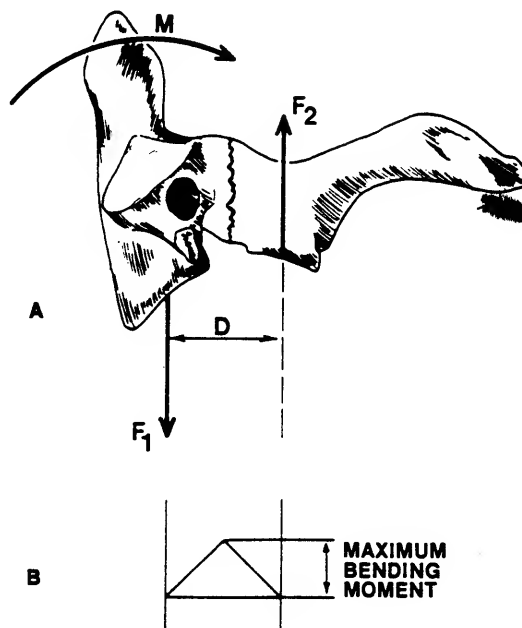
The use of this name and the presumably similar mechanism in auto accidents and other injuries have been questioned by some physicians. They point out that many individuals who sustain this injury do not have even transient neurologic symptoms. The difference is explained by the magnitude and *direction* of the MIV<sup>™</sup> and the duration of load application in the judicial victim, who must "hang by the neck until dead." With the prolonged duration of the load, viscoelastic instability becomes operative, and the



**FIGURE 4-28** Radiograph of an adult male who sustained in a motorcycle accident a fracture of the parietal bone and a hyperextension injury that resulted in a traumatic spondylolisthesis of C2. The separation of the posterior elements from the anterior elements is well demonstrated in this particular lateral view. The MIV is shown. A major factor is a negative torque about the x-axis. The vector creating the torque may be oriented so that it points more in the +y-axis, as in judicial hanging, or it may tend to point more in the direction of the -z-axis, as in the case of an automobile accident. (G. [redacted], Department of Diagnostic Radiology, [redacted].)



**FIGURE 4-29** The judicial hangman's fracture. With the submental knot there is a negative torque created about the x-axis. There is failure in the posterior osseous elements and separation anteriorly at the annulus fibrosus. The pattern of this injury varies with the relative magnitude of the component of the vector in the +y direction as well as the -z direction.



**FIGURE 4-30** (A) Vertebra C2 is acted upon by the bending moment  $M$ , applied by the anterior ring of C1, and a couple of equal, parallel, and opposite forces,  $F_1$  and  $F_2$ , applied by C3. The bending moment and the couple balance each other. (B) The bending moment distribution along the pedicles is represented by the triangular bending moment diagram, which shows that in the middle of the pedicle there is maximum bending moment.

critical failure load of the soft tissues is reached, causing separation of vertebrae and neurologic death. Should this somehow fail to happen, strangulation ensures demise.

These injuries, when secondary to diving or auto accidents, are often without neurologic symptoms. Perhaps this occurs because spondylolisthesis creates a loose neural arch that can further accommodate the cord in an area where it normally has more than ample space."

Actually, there is a large family of injuries that have in common a fracture in the region of the pedicle (isthmus) of  $C_2$ . The complex of injuries that occurs depends on the specific force vectors involved, the magnitude, direction, point of application, and duration of application. In addition, the position of the structures of the spine at the time of impact and the individual mechanical properties of the structures in that particular patient all determine the particular injury, the elements destroyed, and the amount of displacement. When one observes a traumatic spondylolisthesis of  $C_2$ ,  $\theta x$  bending moment is the major component of the injuring forces. Therefore, when this type of fracture is found, we know from judicial hanging that the most likely mechanism of injury is extension.

In auto accidents, where the extension may be due to the forehead hitting the steering wheel or a slanted windshield, a vertical axial component of compression may be involved, along with the rotary bending moment. [REDACTED] has noted considerable crushing of the third cervical vertebra in addition to the  $C_2$  fracture.\* He also noted other injuries that did not fit neatly with a simple extension mechanism. One of his patients had facet fractures between  $C_7$  and  $T_1$ , which strongly suggests a compressive force. In judicial hanging there is a bending moment creating extension with tensile forces on the cervical spine, whereas in the auto accident there is a similar bending moment but with compressive forces on the cervical spine." A clinical study by Bucholz of motor vehicle accident victims supports the concept that these are mainly hyperextension injuries that are sometimes accompanied by a vertical compression component."

[REDACTED] M.D., [REDACTED], PhD, [REDACTED]  
[REDACTED], 2nd Edition, [REDACTED]  
1990.

\* See the textbook for the author's cited references.

- MIV = Major Injuring Vector

E In hangman's fracture, the major injury vector is a bending moment acting on  $C_2$  by means of the dens and the anterior ligamentous structure. Let this moment be  $M$ , as shown in Figure 4-30A. The freebody analysis technique involves isolating  $C_2$ . Let us assume that the contribution from  $C_1$  onto  $C_2$  is a bending moment  $M$  and the contribution from  $C_3$  onto  $C_1$  is a pair of forces  $F_1$  and  $F_2$ , as shown. Because the vertebra  $C_2$  must be in moment equilibrium, the two forces must be equal, opposite, and parallel. The magnitude of these forces is given by the equation where  $D$  is the distance perpendicular to the forces. Force  $F_1$  is a

$$F_1 = F_2 = \frac{M}{D}$$

tensile force contributed by anterior ligamentous structures between  $C_2$  and  $C_3$ , and force  $F_2$  is a compressive facet joint reaction. The bending moment diagram for this loading situation is shown in Figure 4-30B. The bending moment is maximum in the middle of the two forces. Anatomically, this is also the section with the lowest moment of inertia. The probability of fracture at this section with this kind of loading is therefore quite high. If the force  $F_1$  is not parallel to the axis of the disc  $C_2$ - $C_3$ , then this disc will have shear forces in addition to the tensile force. Similarly, if  $F_2$  is not perpendicular to the facet joint surfaces, shear forces will be present at the joint, thus causing stress in the facet capsular ligaments.



**TRANSPORTATION RESEARCH CENTER**

Indiana University

47403-

**ON-SITE AIR BAG INVESTIGATION**

**SELECTED PHOTOGRAPHS**

CASE NO. - 95-10

FLEET - PRIVATE VEHICLE

LOCATION - TEXAS

ACCIDENT DATE - 1995

A total of sixty color copies of photographs are presented and referenced as Photograph #01 through Photograph #60. Photographs numbered #53 through #60 were taken and made available by the Investigative Firm hired by the Case Vehicle's Insurance Company. Photographs numbered #01 through #52 were taken by the Transportation Research Center.

1995

Contract Number: DTNH22-94-D-17058

Prepared for:

U.S. Department of Transportation  
National Highway Traffic Safety Administration  
National Center for Statistics and Analysis  
Washington, D.C. 20590



# 01 -- 1994 Pontiac Grand Prix's westward travel path in center west-bound lane ~ 100 m (328 ft) east of impact with 1990 Ford F150



# 02 -- 1994 Pontiac Grand Prix's westward travel path in center west-bound lane ~ 70 m (230 ft) east of impact with 1990 Ford F150



# 03 -- 1994 Pontiac Grand Prix's westward travel path in center west-bound lane ~ 25 m (82 ft) east of impact with 1990 Ford F150



# 04 -- 1994 Pontiac Grand Prix's westward travel path in center west-bound lane at impact; NOTE: Ford's RF tire mark (cells E6-E7)





# 05 -- 1994 Pontiac Grand Prix's northwest travel path departing road ~ 30 m (98 ft) west of impact; NOTE: RF tire mark (cells F8-F5)



# 06 -- 1994 Pontiac Grand Prix's northward travel path going down muddy embankment to FRP (cells D5--F6); NOTE: broken glass (cell G6)



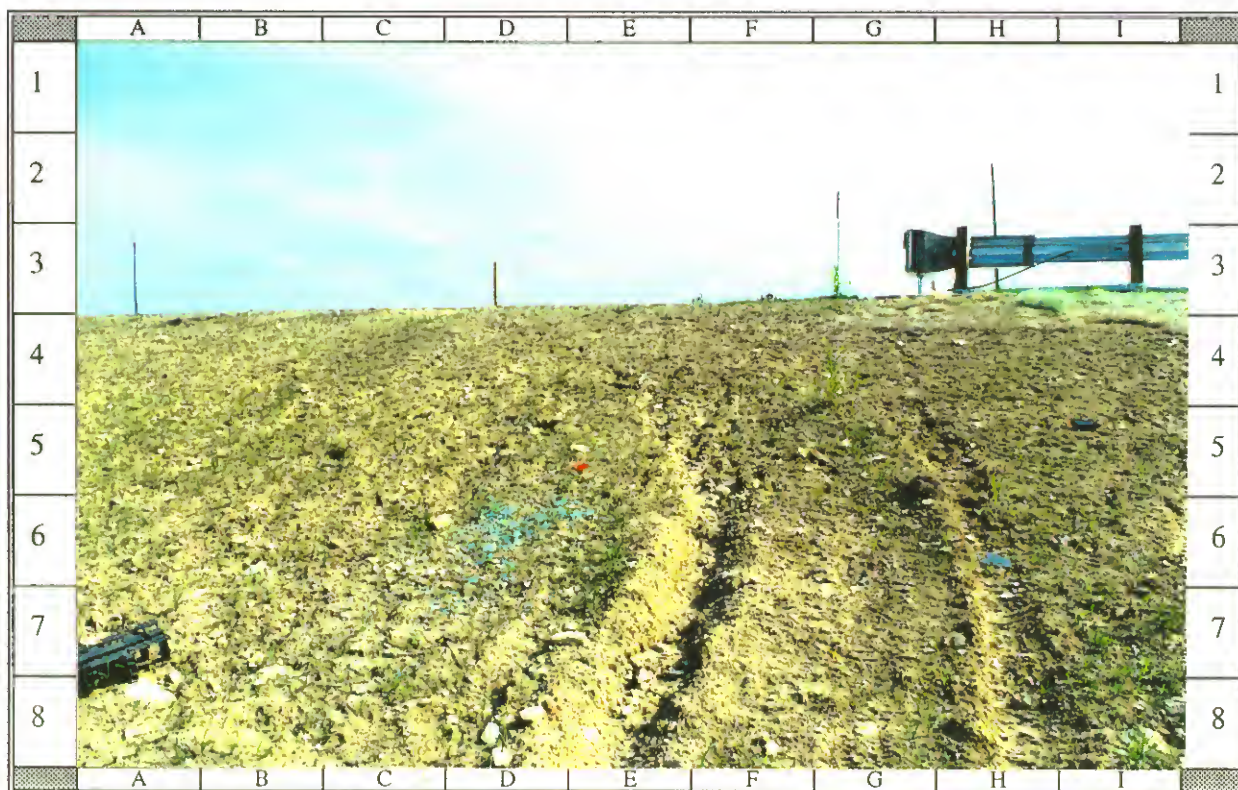


# 07 -- 1994 Pontiac Grand Prix's broken off air dam and right front tire gouge (cells E5-F4) which occurred during removal operations



# 08 -- Southward view of 1994 Pontiac Grand Prix's northward travel path showing LF and RF tire ruts cut into embankment; glass marks FRP



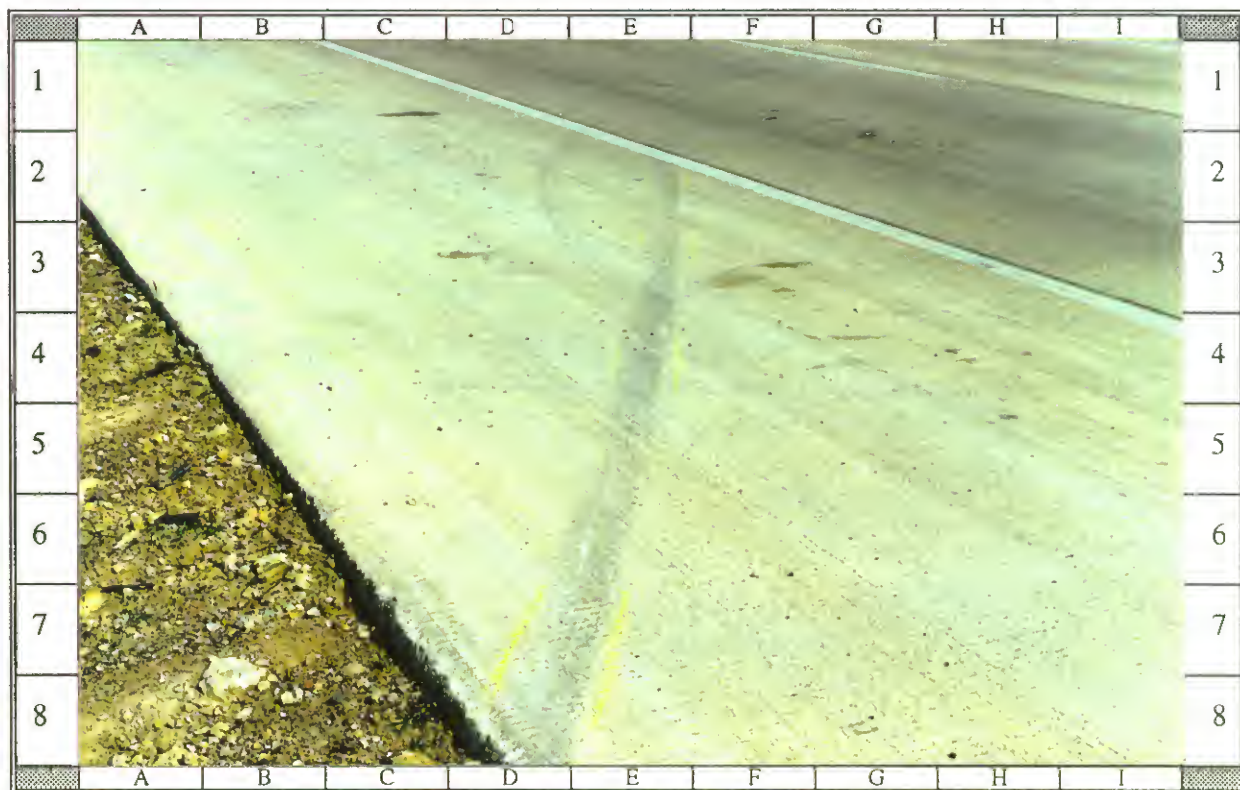


# 09 -- Southward close-up view of 1994 Grand Prix's LF and RF tire ruts @ FRP; NOTE: RF glass (cell D6) shattered during extrication



# 10 -- Southeast view of 1994 Pontiac Grand Prix's RF tire mark deposited during vehicle's northward departure of road (cell E5)





# 11 -- Southeast close-up view of 1994 Pontiac Grand Prix's right front tire mark; NOTE: tire was restricted by vehicle damage



# 12 -- Eastward view of 1994 Pontiac Grand Prix's travel path; NOTE: trafficway sagged ~ 150 m (492 ft) prior to point of impact



# 13 -- 1990 Ford F150 XLT's southward travel path up southbound lane of commercial driveway ~ 40 m (131 ft) from impact

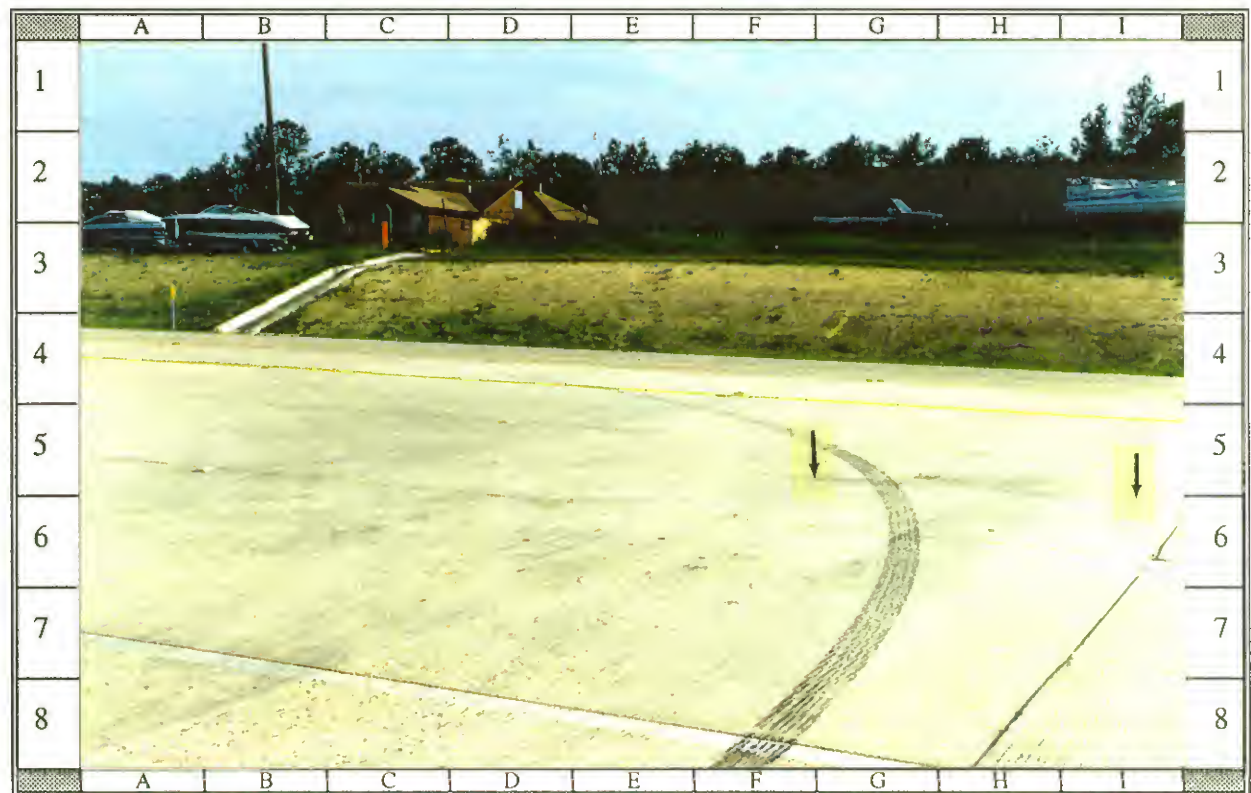


# 14 -- 1990 Ford F150 XLT's southward travel path up southbound lane of commercial driveway ~ 25 m (82 ft) from impact



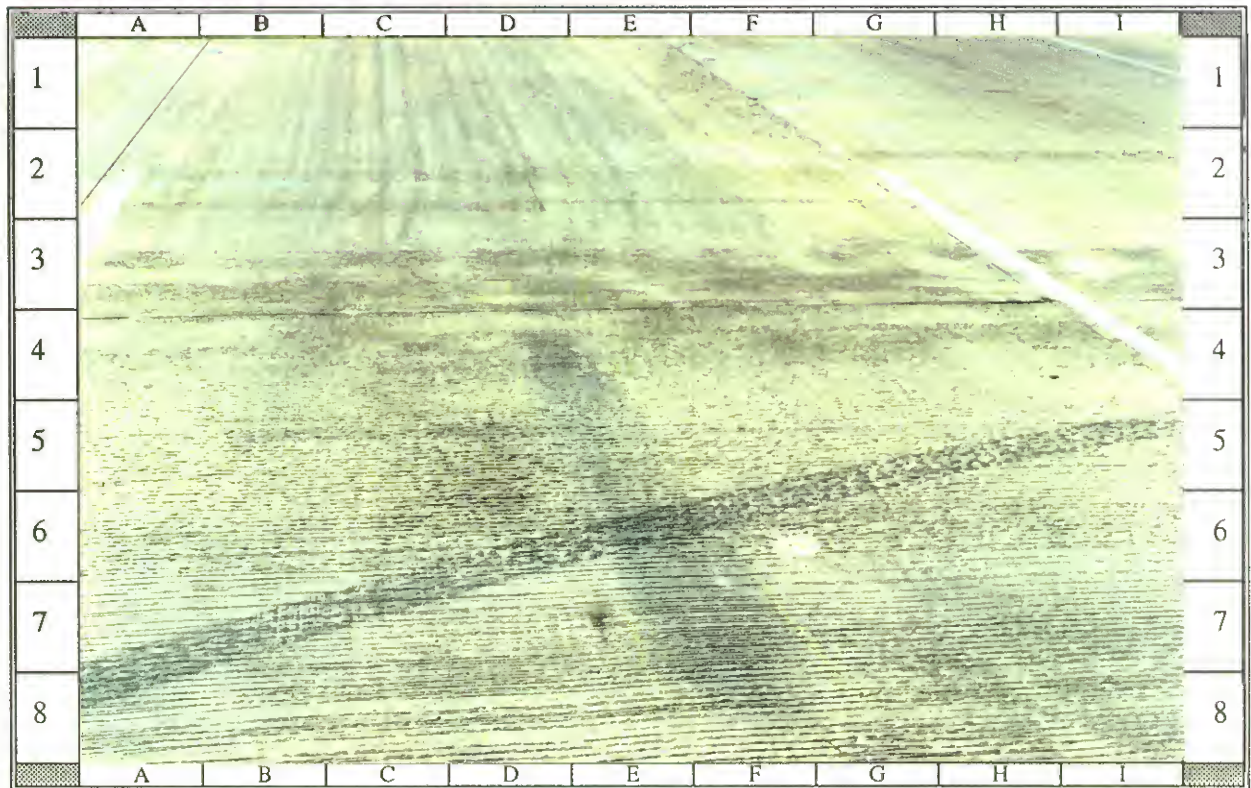


# 15 -- 1990 Ford F150 XLT's southward travel path up southbound lane of commercial driveway ~ 10 m (33 ft) from impact

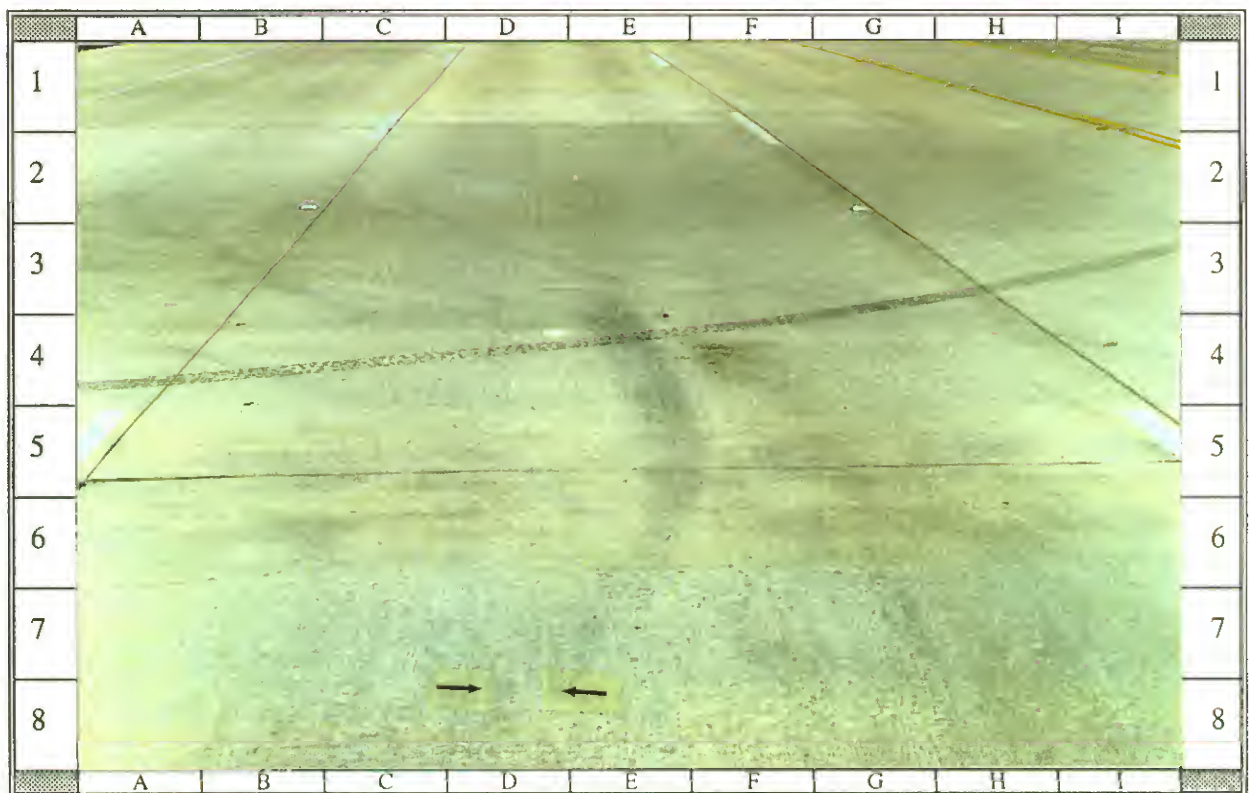


# 16 -- 1990 Ford F150 XLT's southeast travel path during left-hand turn ~ 5 m (16 ft) from impact; NOTE: RF tire scuff (cells F5-I6)





# 17 -- Westward close-up view of 1990 Ford F150 XLT's right front tire scuff (cells F8--D4); NOTE: north to south curved track is spurious



# 18 -- Eastward view of 1990 Ford F150 XLT's RF tire scuff curving toward north (cells E3--D8); NOTE: north to south curved track is spurious





# 19 -- Northwest view of 1990 Ford F150 XLT's RF tire scuff (cells D6--F5) curving to FRP and spot marking left front @ FRP (cell C7)



# 20 -- Northward view of 1990 Ford F150 XLT's southeastward travel path from driveway while attempting a left-hand turn and impact area



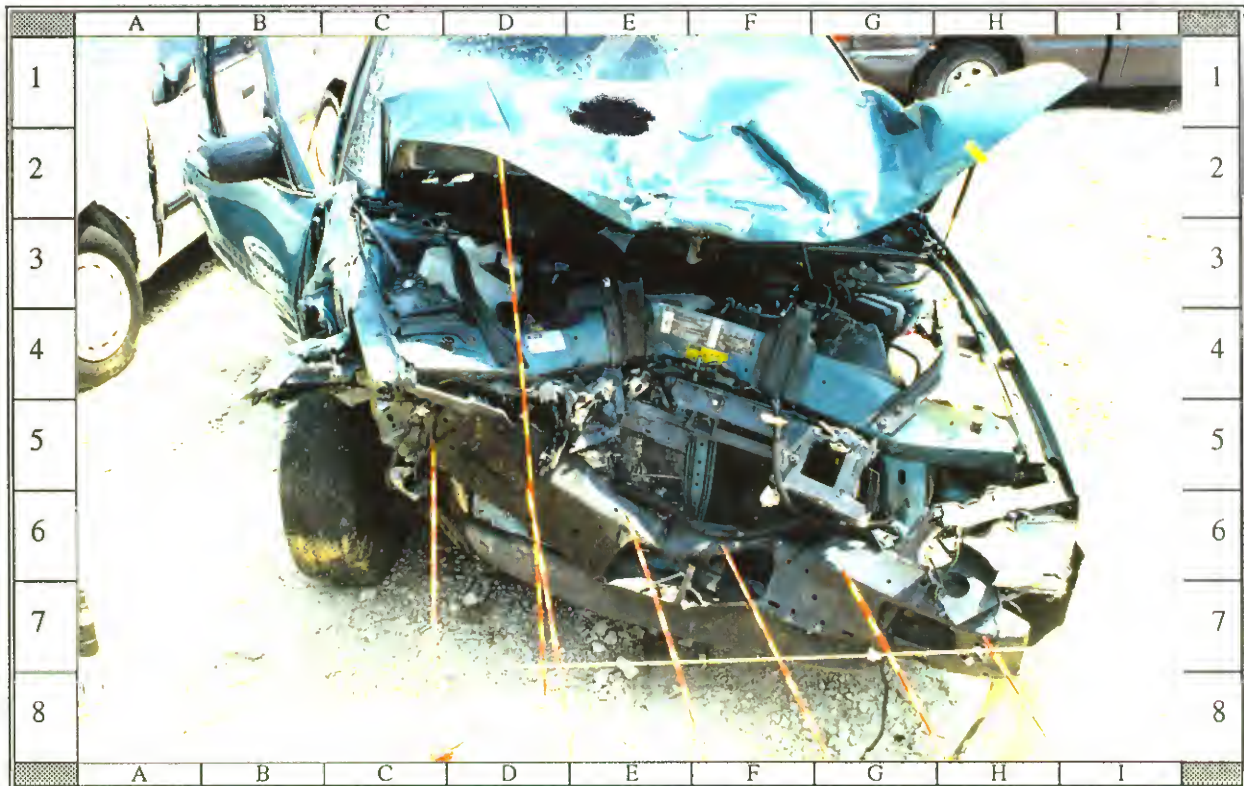


# 21 -- 1994 Pontiac Grand Prix SE's damaged front viewed from approximately 45 degrees right of front with contour gauge present

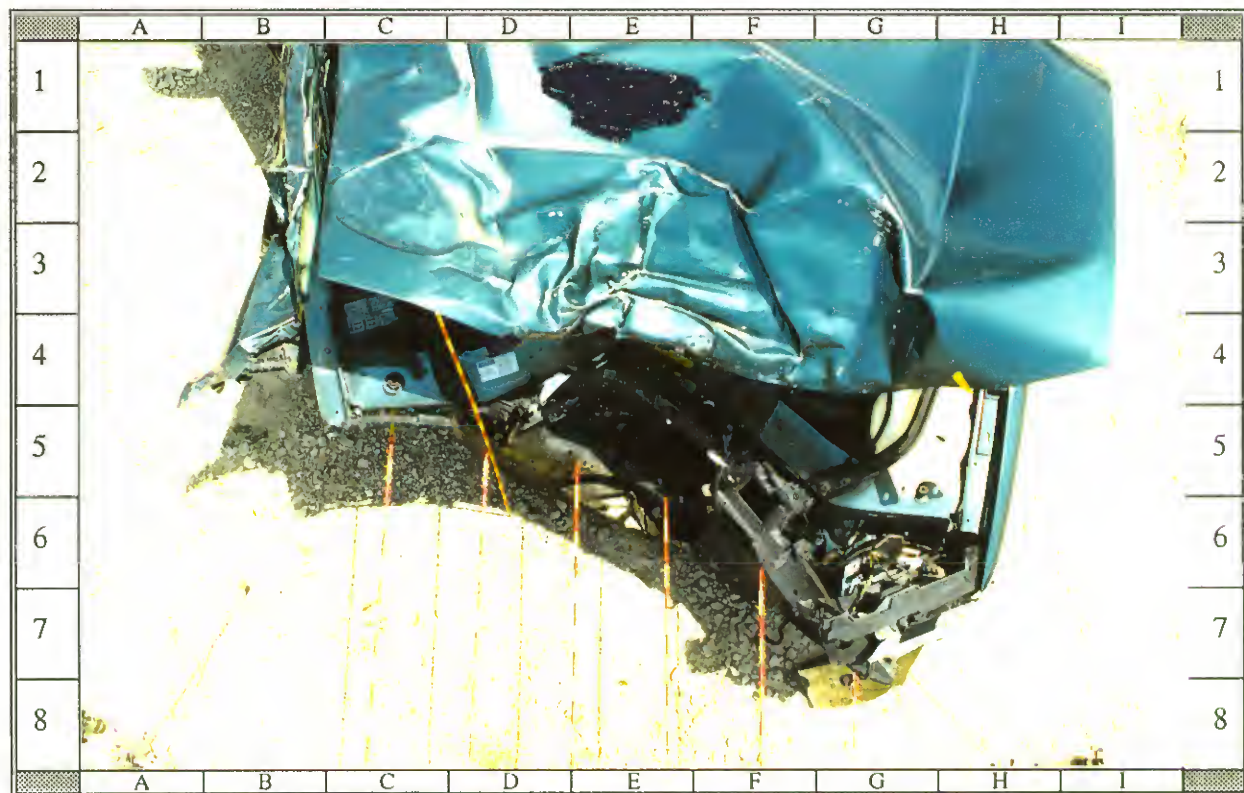


# 22 -- Frontal view of 1994 Pontiac Grand Prix SE's front damage with contour gauge present; NOTE: max crush @ C6



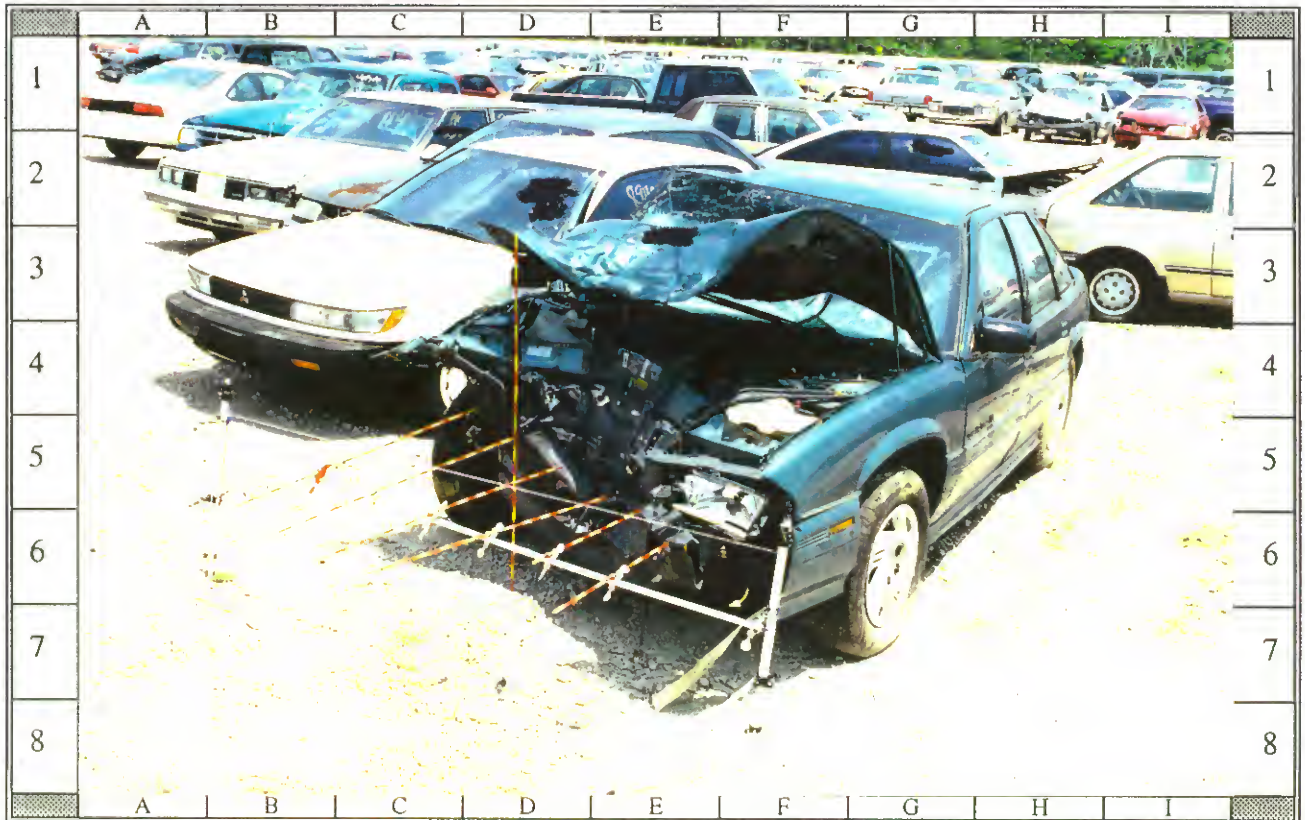


# 23 -- Close-up of damage to 1994 Pontiac Grand Prix SE's front with contour gauge present; NOTE: max crush @ C6 (see cell C5)

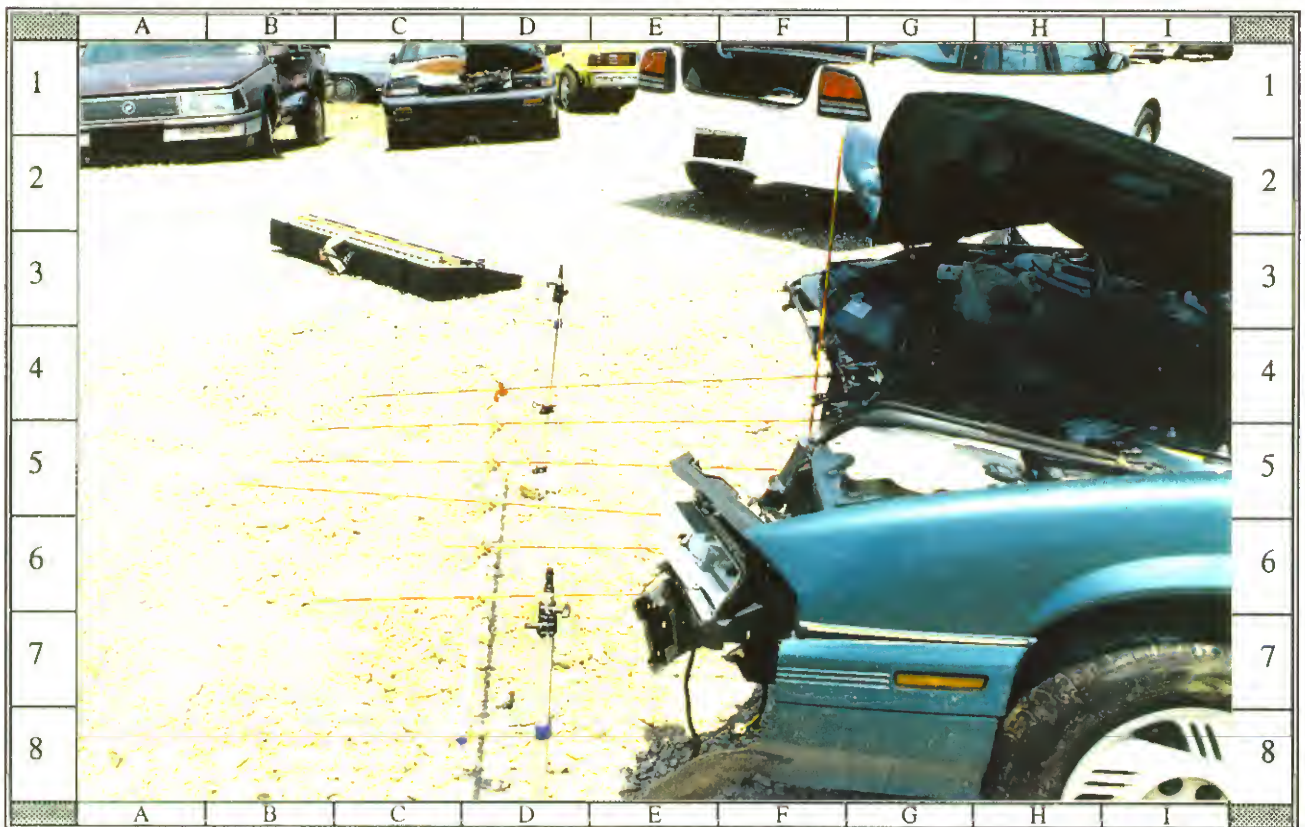


# 24 -- Overhead view of 1994 Grand Prix SE's frontal crush with contour gauge present; NOTE: max crush @ C6 (see cell C5)





# 25 -- 1994 Pontiac Grand Prix SE's damaged front and undamaged left side viewed from approximately 30 degrees left of front



# 26 -- Reference line view of 1994 Pontiac Grand Prix SE's front damage viewed from left with contour gauge showing crush





# 27 -- 1994 Pontiac Grand Prix SE's undamaged left side and back viewed from approximately 45 degrees left of back



# 28 -- 1994 Pontiac Grand Prix SE's back showing induced damage to back right corner from sideslap impact with 1990 Ford F150 4x2 pickup



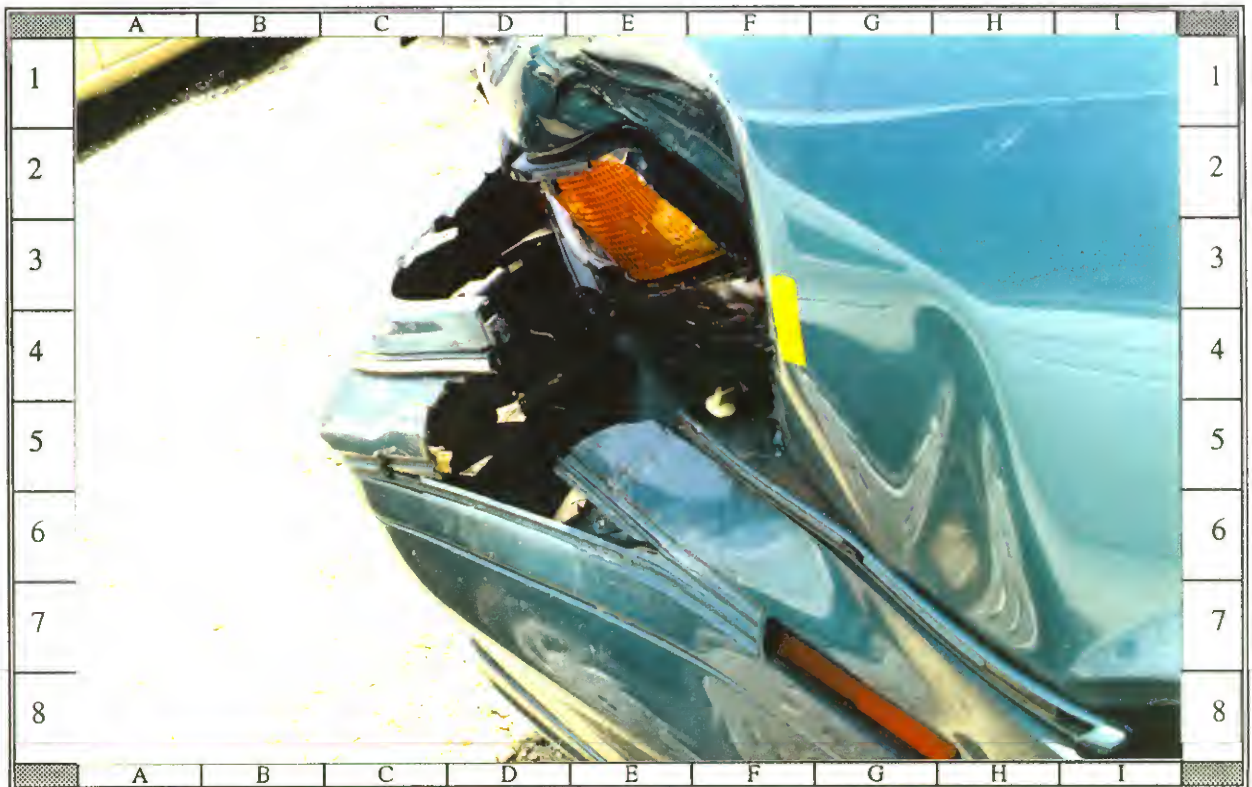


# 29 -- Reference line view of 1994 Pontiac Grand Prix's right side from rear showing sideslap damage from impact with 1990 Ford F150



# 30 -- Close-up of 1994 Grand Prix's damaged right rear corner viewed from ~ 45 degrees right of back; NOTE: tape shows direct damage





# 31 -- Closer-up view of 1994 Pontiac Grand Prix SE's right rear corner damage from sideslap impact with 1990 Ford F150 4x2 pickup



# 32 -- Close-up of 1994 Pontiac Grand Prix's damaged right front and rear doors; NOTE: damage occurred during extrication of RF passenger



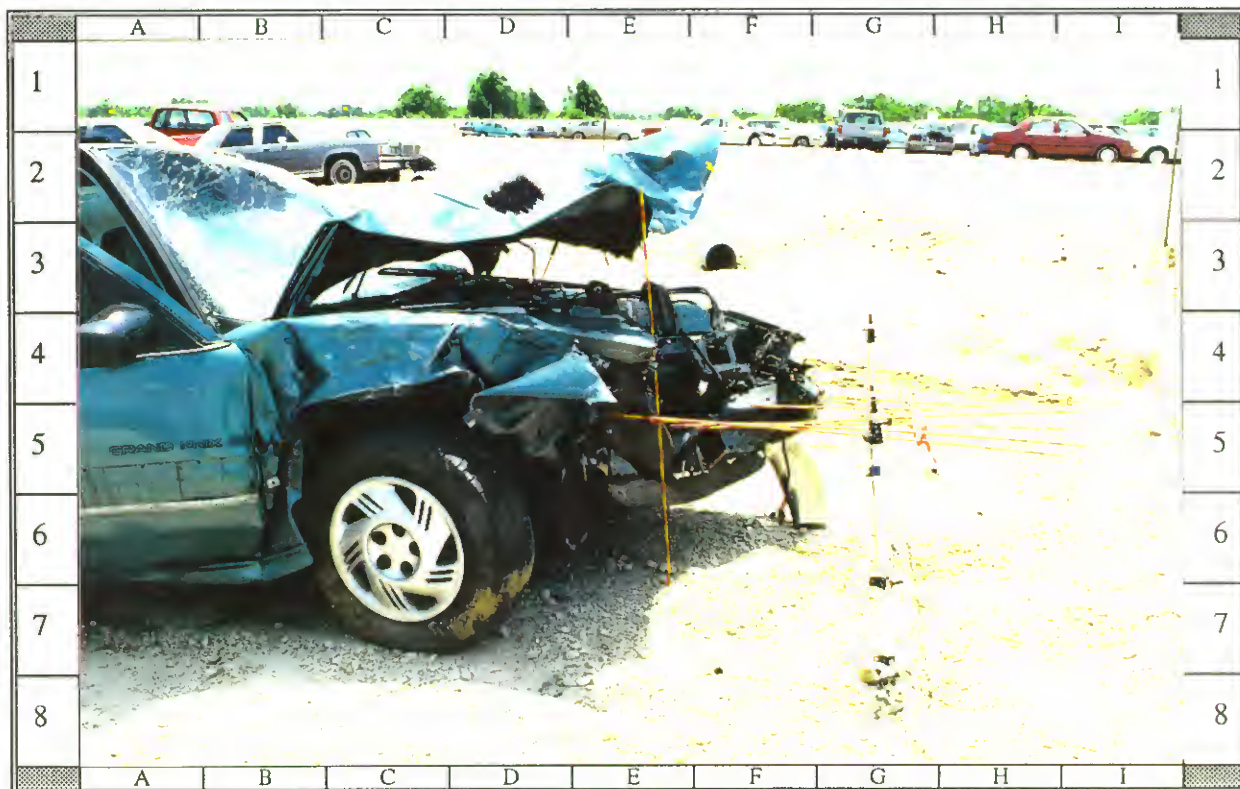


# 33 -- 1994 Pontiac Grand Prix viewed from right showing frontal crush and induced buckling to right A-pillar and roof from front crush



# 34 -- 1990 Pontiac Grand Prix's damaged right windshield; NOTE: spider web (cells D4--E5) resulted from RF air bag's cover flap





# 35 -- Reference line view of 1994 Pontiac Grand Prix SE's front damage viewed from right with contour gauge showing crush



# 36 -- Interior of 1994 Pontiac Grand Prix SE showing undamaged driver's door surface, front seating areas, and deployed dual air bags





# 37 -- 1994 Pontiac Grand Prix's driver seating area; NOTE: undamaged dash and missing turn signal arm on steering column (cell E3)



# 38 -- 1994 Pontiac Grand Prix's deployed driver air bag; NOTE: possible contact to air bag (see yellow dot--cell E5) and bucket seats

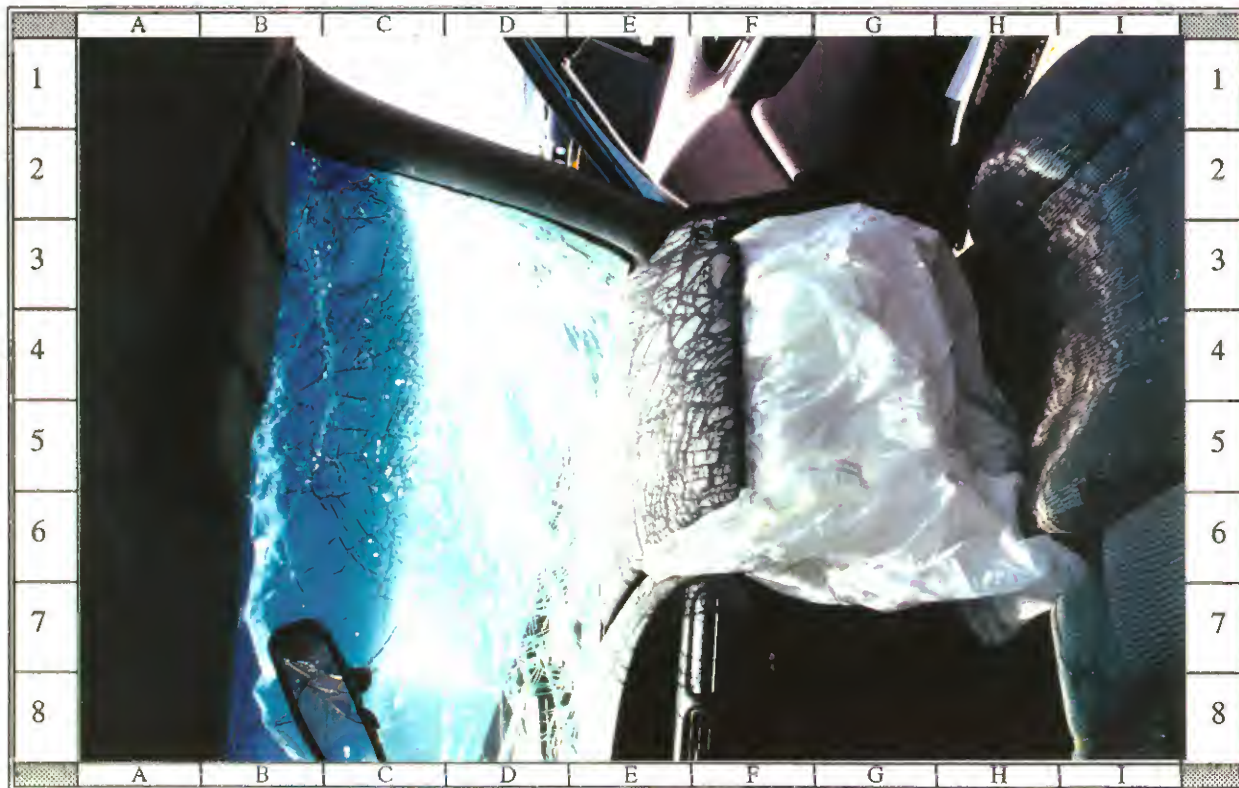


# 39 -- 1994 Pontiac Grand Prix's deployed driver air bag and greenhouse area; NOTE: noncontacted sunvisor and tilted rearview mirror

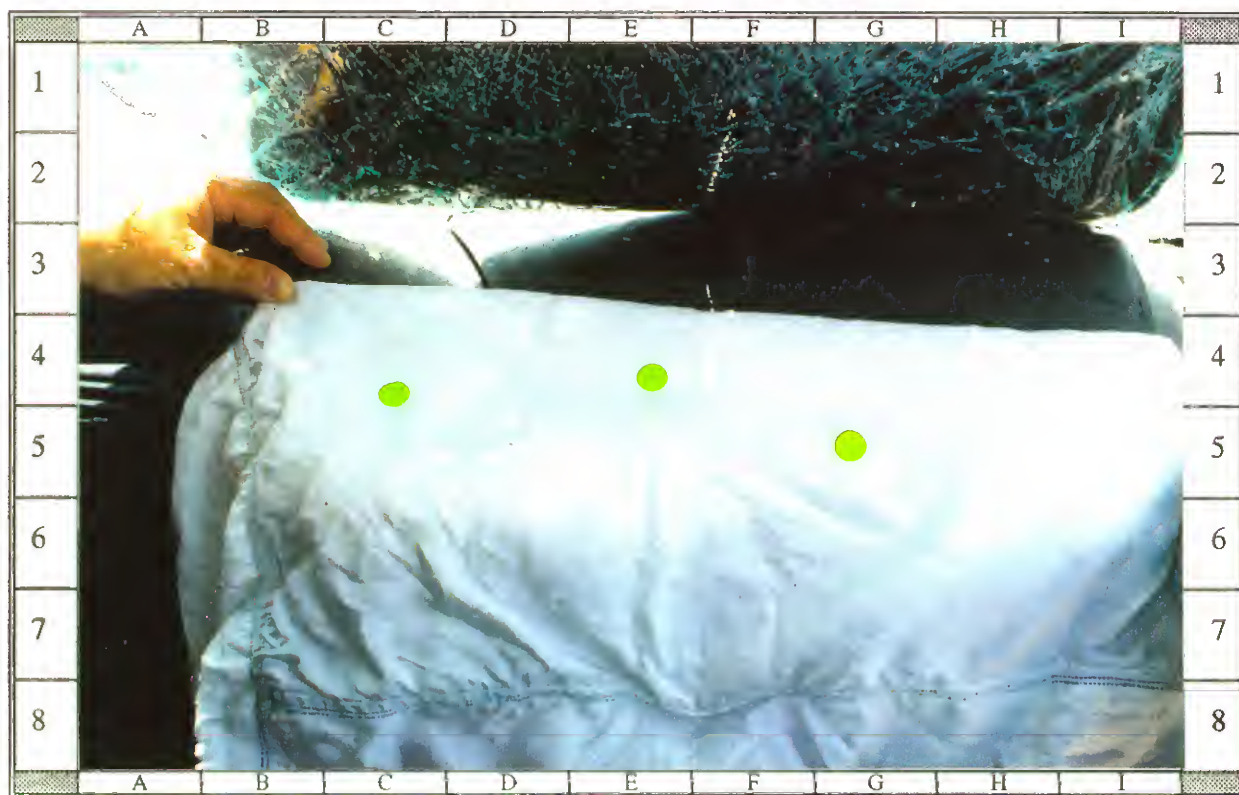


# 40 -- 1994 Pontiac Grand Prix's center dash and greenhouse area; NOTE: titled mirror and cracked right windshield from RF air bag cover flap

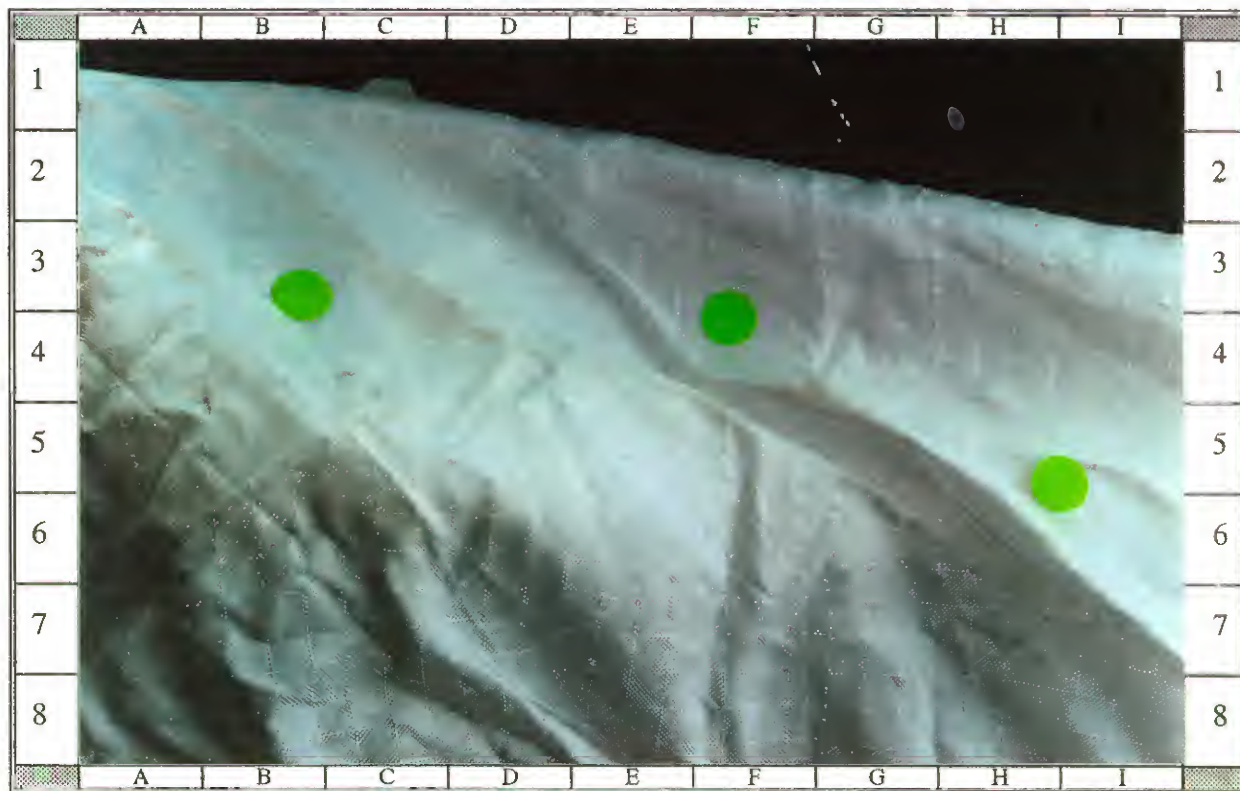




# 41 -- 1994 Pontiac Grand Prix's deployed RF passenger air bag and greenhouse area; NOTE: spiderweb to right windshield from RF air bag flap



# 42 -- Close-up of 1994 Pontiac Grand Prix's deployed RF passenger air bag showing contacts--see green dots



# 43 -- Closer-up of 1994 Pontiac Grand Prix's deployed RF passenger air bag showing make-up (cells A4--C4) and smudges (cells C3--H6)



# 44 -- 1994 Pontiac Grand Prix's contacted glovebox door and toe pan area on RF passenger side; NOTE: intrusion to toe pan (cells C6--H8)





# 45 -- 1994 Pontiac Grand Prix's center and right dash and glovebox; NOTE: induced damage to glovebox and toe pan intrusion (cells E5--H7)

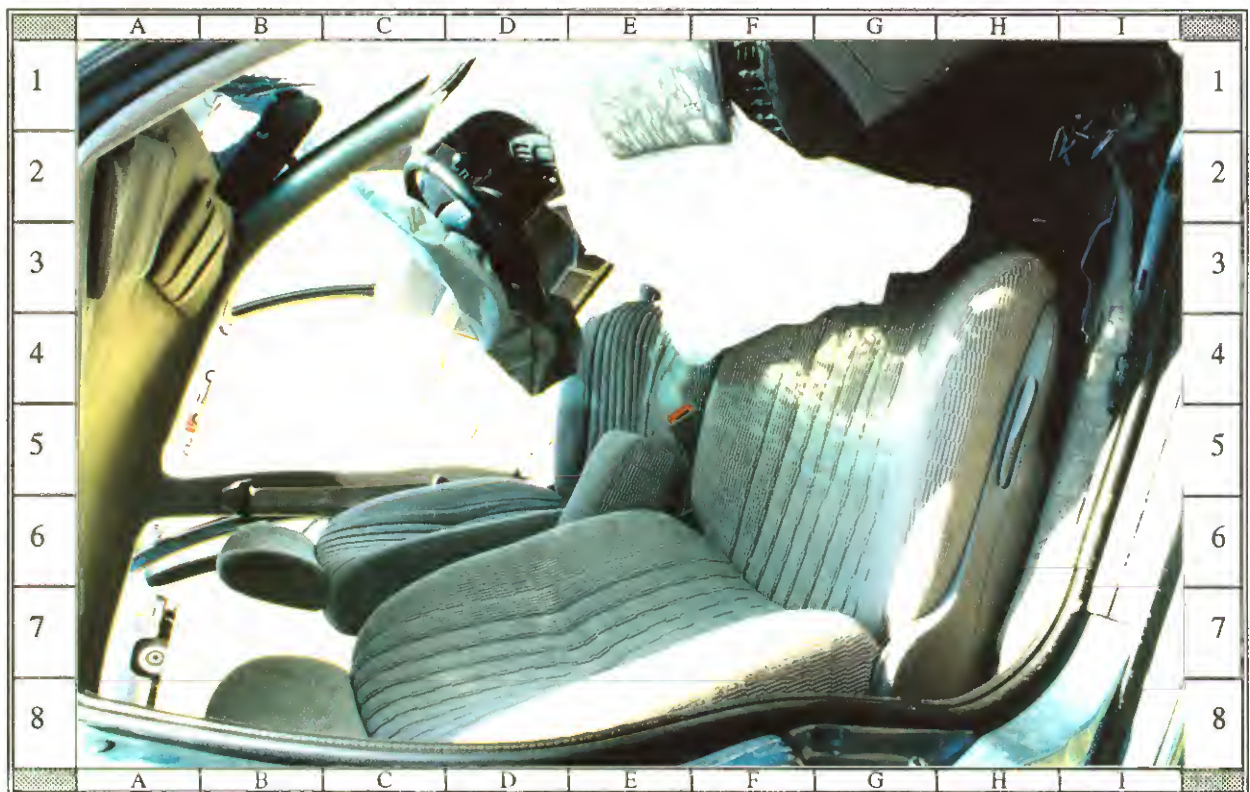


# 46 -- 1994 Pontiac Grand Prix's right front passenger air bag cover flap with scratches from contacting right windshield glass





# 47 -- Interior of 1994 Pontiac Grand Prix SE showing undamaged RF door surface and deployed RF air bag; NOTE: flap cracked windshield



# 48 -- 1994 Pontiac Grand Prix's front seating area from right showing deployed air bags, bucket seats, and head and 3-point restraints





# 49 -- 1994 Pontiac Grand Prix's rear seating area from left showing rear bench seat with integral head and outboard 3-point restraints



# 50 -- 1994 Pontiac Grand Prix's right front passenger seat belt buckle (male end); NOTE: scratches on buckle show recent usage



# 51 -- Close-up of 1994 Pontiac Grand Prix's right front passenger D-ring showing evidence of loading; see cell D4



# 52 -- Close-up of 1994 Pontiac Grand Prix's right front passenger D-ring showing evidence of loading; see cell E5





# 53 -- Frontal view of 1990 Ford F150 XLT's induced front damage; NOTE: front bumper and right front fender shifted toward right



# 54 -- Frontal view of 1990 Ford F150 XLT's induced front damage and direct damage to left front; NOTE: front shifted toward right





# 55 -- Full left side view of 1990 Ford F150 XLT's left front damage;  
NOTE: sideslap damage to left rear bumper corner not visible



# 56 -- Close-up of 1990 Ford F150 XLT's damaged left front fender and  
wheel area; NOTE: no direct damage behind left A-pillar





# 57 -- Closer-up view of 1990 Ford F150 XLT's damaged left front fender and wheel area



# 58 -- Back view of 1990 Ford F150 XLT's damaged left rear bumper corner (cell C5) from sideslap impact with 1994 Pontiac Grand Prix





# 59 -- 1990 Ford F150 XLT's undamaged right rear side; NOTE: induced damage to right front door (see cell I4)



# 60 -- 1990 Ford F150 XLT's induced right side damage to right front door and fender from frame shift